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DEVOTED TO THE INTERESTS OF

ILLUMINATION, HEATING, MECHANICAL, CHEMICAL

—AND—

GENERAL SCIENCE.

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(FIFTY-SECOND YEAR.)

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PUBLISHING OFFICE No. 42 PINE STREET

DEVOTED TO THE INTERESTS OF ILLUMINATION, HEATING, MECHANICAL, CHEMICAL AND GENERAL SCIENCE.

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BRIEFLY TOLD.

RULES REGULATING DEPOSITS TO INSURE GAS SUPPLY, PUBLIC SERVICE COMMISSION, SECOND NEW YORK DISTRICT.—We are in receipt of queries regarding the rules prepared by the Second District New York Public Service Commission, respecting when and under what circumstances gas and electric corporations may demand and receive cash deposits, or advance deposits in cash, as guarantees that the bills for such service shall be duly paid. In replying thereto, we submit the following summary of the order, issued some weeks ago by the Commission, which summary is really all that is necessary to print about it at this time, save to say: The order was compiled after a lengthy consideration of the matter brought out during several public sittings of the Commissioners, and after prolonged sifting of the testimony and suggestions thus publicly brought out; the companies doing business in Greater New York are not bound by it, and the order becomes effective the 1st prox. The main points are:

1. A detail record shall be kept with respect to each deposit now on hand or hereafter received.

2. Upon each deposit shall be allowed and paid interest at the rate of 6 per cent. per annum.

3. Each depositor upon ceasing to be a consumer shall have the right to withdraw his deposit and all accrued interest thereon upon certain terms and conditions.

4. Each corporation shall keep on hand for distribution to its customers printed circulars under its corporate or business name, such circulars to contain for the information of the depositors in full Section 63 of the Transportation Corporations Law, pursuant to which the companies obtain their rights in the matter, and shall also contain in full this order of the Commission.

5. Each corporation, on or before March 1, 1911, shall provide every customer having a deposit with a copy of such circular, and hereafter prior to exacting a deposit such corporations shall present a copy of said circular to the consumer or applicant for service of whom a deposit is demanded.

6. Also each corporation is required to provide reasonable ways and means whereby a depositor, who in good faith makes application for the return of his deposit and is entitled to the return of same, but who is unable to produce the original certificate of deposit, may not be deprived of his rights.

ANNUAL MEETING, INDIANA GAS ASSOCIATION.—The gas men of Indiana are working in nice unison to make the forthcoming meeting of the Indiana Gas Association one that will be remembered in its annals no matter what such annals will describe. In more senses than one the coming meeting takes on quite a Waynish aspect. In the first place, it is the first meeting of the Association to be held in the Hoosier State's busy hive, known as Fort Wayne, which place is well pervaded with the spirit that moved the "Anthony" of whom all Indiana is so justly proud. The President of the Association (Mr. Carl H. Graf), of Indianapolis, and its Secretary (Mr. Philmer Eves), of the same city, despite the busy campaign with an opposition

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concern now on in Indianapolis, have seen to it that, in connection with the meeting, is to be be held in the lobby of the Arcade Building an exhibition of gas appliances that will compare in fair degree favorably with those of like purpose and effect in Chicago, New York and Boston. Of course, in this instance President Graf has been aided by the suggestions and counselling of Secretary Eves, who, as our readers well know, is in charge, and with every possible member of the commercial division of the business of the Indianapolis Gas Light Company. Further, added to the counsellings of Mr. Eves are the words of advice that accompany the active doings of Mr. E. O. Mulholland, the astute General Manager of the Indiana Lighting Company. The words "active doings" in respect of the Mulholland efforts are advisedly written, since it is an open secret that his Company will expend $5,000 in "financing the exhibition." According to Mr. W. F. Weadley, Sales' Manager of the General Gas Light Company, his Company, as usual, stands ready to advance the good work, as do the local firms headed by the Western Gas Construction Company and the Kerr Murray Manufacturing Company. Since the completion of the Hotel Anthony—in the construction of which beautiful hostelry, Mr. Olaf N. Guldlin, of the Western Gas Construction Company, was really the greatest individual factor—no one may truthfully cavil over the hotel accommodations of the city, and those who attend the convention may rest assured that, so far as creature comforts are concerned, there will be no occasion during or after the meeting to register any objection whatsoever. We expect to have something to say next week respecting the details of the programme, which is now being prepared by the officers. Manufacturers who propose to show goods in the display should not lose a moment in getting in communication with Mr. Eves, of Indianapolis, respecting floor space necessary for their purpose.

CURRENT MENTION—

THE firm of Chambers & Hone was dissolved by mutual consent the 1st inst. The business will be carried on by Mr. Hone, the titling of the succeeding firm being that of Frederic de P. Hone & Co. While we regret the retiring of Mr. Chambers from the firm, it is nevertheless our province to say that such fact will not detract in any way from the efficiency of the firm in its methods of conducting business.

ADVICES by way of Philadelphia, dated the 26th ult., are to the effect that George B. Altee and associates have purchased the Berwick (Pa.) Consolidated Gas Company, the consideration being returned as $125,000. This corporation has certainly a record showing a precarious existence, since its incorporation in 1903, by "a group" of "capitalists," included amongst whom was the more or less illusive Mr. Avery C. Sickels, who had some short while before also been connected with the flotation of another "gas enterprise." The Berwick charter was issued in 1903, and gave the right to manufacture and distribute gas in the thriving Pennsylvania towns of Berwick, West Berwick and Nescopeck. Other and subsequent financial shifts resulted in its taking over the Berwick Gas Supply Company, the Berwick Illuminating Company, the West Berwick Illuminating Company and the Nescopeck Illuminating Gas Company, having capital stock amounting to $100,000, and a total bonded incumbering of $143,000, bearing 5 per cent. interest. During June, 1909, co-receivers (Messrs. Barret and Jayne) were appointed to manage its affairs, through legal proceedings alleging waste and mismanagement. At the same time a Protective Committee was formed for the protection of the interests of those holding the bonds. While we are not positive as to the identity of those controlling the interests of the Altee syndicate, it is quite certain these are sufficiently strong to put the buffeted corporation in position to become remunerative property; and they certainly have secured the Company at a figure quite something underneath its real worth.

COL. IRA D. COPLEY, President of the Western United Gas and Electric Company, which corporation controls the gas plant at Elgin, Ills., has formally notified the authorities of Elgin that his Company will not accept the terms of the franchise, passed last month by the City Council, for the fixing of gas rates, etc., in Elgin for a term of years. The refusal to accept the franchise was penned in no uncertain phrasing, a part of it reading: "* * * It will be impossible for this Company to accept the ordinance, for the reason that it practically confiscates the property."

MR. W. C. DUNCAN, formerly connected with the Pueblo (Col.) Lighting Company, has been appointed to the charge of the commercial division of the business of the Leavenworth (Kas.) Light, Heat and Power Company, vice Mr. B. J. Long, resigned. The Superintendent of the Leavenworth Company (Mr. W. H. Fellows) has arranged for the fitting up of a display room, at the rear of the present business offices, which will be up-to-date in every particular. In passing, it might be noted that the show quarters will carry lines of electrical as well as gas appliances.

Gas works constructing firms might do well to remember that the people of Newton, Ia., have indorsed by formal vote the proposition to further bond the city in the sum of $40,000, the monies from which bond output are to be used for the construction of a gas plant to be operated on municipal account.

IN connection with the new installation of water gas apparatus that is being made by the United Gas Improvement Company on the works of the Columbia (Pa.) Gas Company, Superintendent Apgar (he was appointed to that position the 1st ult.) declares that a notable addition to the main system is being outlined, for carrying into effect next spring.

THE taxpayers' list in New Haven, Conn., the assessment rolls for which were completed a fortnight ago, is headed by the New Haven Gas Light Company. Its assessment is returned on a valuation of $3,218,788.

AT the quarterly meeting of the Rockville and Willimantic (Conn.) Gas and Electric Light Company, the officers discussed informally the notable increase in its trading over the volume accounted for in 1909. The increase is in fact great enough to cause one to speculate on the likelihood of the Company having to increase its generating capacity this year.

"G. L. L.," writing under date of the 26th ult., from Eau Claire, Wis., inclosed these lines: "The Eau Claire Gas Light Company has surrendered its franchise to the city in order to enable it to accept in substitution from the State Railroad Commission an indeterminate permit to transact business. In doing this the Eau Claire Company surrenders a perpetual franchise."

MR. MELVIN E. BALDWIN, speaking for an estate of which he is one of the legal representatives, informs us that all of the capital stock of the Cooperstown (N. Y.) Gas Company will be sold at public auction. The sale will be conducted in Carrs Hotel, Cooperstown, at 1 P.M., January 7th. The sale will carry with it the ownership and control at once of all the property of the Company, consisting of a completely (more or less) equipped gas plant and real estate and 3½ miles of mains; all the franchise grants are also included. The property is free from all liens, and every indebtedness against the Company will be cancelled.

THE St. Paul (Minn.) *Dispatch*, of the 23d ult., is our authority for the statement that from 80 to 90 per cent. of the gas now consumed in St. Paul is virtually for fuel purposes. While we all know that an intelligent and strikingly successful campaign for spreading the use of gas for other than lighting had been and is being conducted by Col. Doty's well trained staff of commercial representatives, it was hardly thought, in this section at any rate, that the disparity between fuel and lighting account use was so marked. However, these figures, extreme though they are, readily account for the Colonel's advocacy, in and out of his home city, of a value based on the attainings of gas as a heating agent rather than an illuminating one.

ABOUT as intricate and bothersome a piece of pipe laying as one could care to direct is that now going on across the Quinnipiac river, the main being intended to carry a sufficient supply of gas to the residents of Fair Haven, Conn., from New Haven proper. By-the-way, the most important series of experiments in connection with the early history of water gas in the United States were conducted in Fair Haven in the early seventies.

THE proprietors of the Marlboro (Mass.) Gas Company, and it would seem wisely, are considering the advisability of extending its main system from Maynard to Hudson, thus completing an excellent distributing ocurse.

THE latest from the Press of the Bristol Company is "Bulletin, No. 130." It is a 56-page, illustrated catalogue, listing and describing W. H. Bristol electric pyrometers, the descriptions having to do with indicating and recording forms of these instruments, with explanations of their special patented features. For instance, basic patents on means of compensating readings of thermo-electric pyrometers for changes in cold and temperature. Pages 48 to 55 of this catalogue carry the names of more than 700 users of the Bristol pyrometer.

[Official Report—As Appoved by Committee on Publication.—Continued from Vol. XCIII. Page 1230.]

THE FIFTH ANNUAL MEETING, AMERICAN GAS INSTITUTE.

Held in New York City, October 19th to 21st (Inclusive), 1910

First Day, Wednesday, October 19th—Afternoon Session.

The President—The next paper on the list is by Dr. A. C. Humphreys, and is entitled

THE PUBLIC DECEIVED BY FAULTY DATA AND MISLEADING ANALYSIS OF DATA.

The time has more than come for plain speaking in regard to the way in which the public is being misled as to the operation of our industrial corporations, and especially those engaged in public service. For this and other reasons I was greatly impressed by an address, delivered last March by Duncan MacInness, C.P.A., of the office of the Comptroller of the City of New York. Let me quote a few lines particularly pertinent to my present subject: "All the elements and factors in the financial and business world are so closely interrelated and interdependent that at no other time in the history of our country was the importance of *publicity which conveyed a meaning*, so great as it is at the present day. It would be a great benefit indeed to the public if the statements and reports of every corporation, financial and commercial, in which the people have an interest as investors or depositors, *were published in a form that would convey a clear and explicit meaning as to its status and also as to its earnings.* Such statements of efficiently and honestly managed concerns would dispel the gloom of doubt that beclouds our financial horizon, and allow the rays of confidence to illume the great business world." (The first italics are the author's; the second are mine.)

The course of events during the past few years should convey the lesson that publicity given to statements about our corporations, which fail to convey a correct, clear and explicit meaning, are dangerous in the extreme, and especially so in view of the present attitude of the public mind towards financial, commercial and industrial corporations. There is here a grave responsibility resting upon the authors of such publications, whether they be corporation or government officials, or self-appointed guardians of the public weal.

Not only should all possible care be exercised in the preparation of statements and reports intended to meet specific requirements, but equal care should be exercised in the preparation of volunteered statements. And, further, those who are looked to by the public to guard its interest should be as ready to publish facts, which indicate good intent and efficient management on the part of the corporation, as to publish those facts which admit of interpretation unfavorable to the corporations. Not only should such statements given out to the public through the press be correct as to fact, but the utmost care should be exercised to put the facts in a form to prevent as far as possible misinterpretation and misrepresentation. Subordinates should not be allowed to give out such statements to the press except under the direct supervision of those who are and can be held responsible.

Apparently the public is no longer prepared to see both sides of the many complicated problems involved in the management of our business corporations. Influenced by the professional reformers, the amateur reformers, the muck-raking writers for profit, the self-seeking politicians and some members of the judiciary, the public is prompt to recognize and condemn not only the definite evils introduced by unscrupulous promotors and others, but also the lesser evils necessarily present in some measure through the frailties of human nature. The public is misled to look for perfection where perfection is not attainable, and refuses to believe that the majority of those responsible for the management of these corporations also condemn these evils and are working faithfully and constantly for their correction. It fails to recognize that the far-sighted investor is entitled in many cases, by reason of extraordinary risks taken, to more than a minimum return (the professional reformer's "fair return") on his investment. While we may all join in condemning and opposing the methods so often pursued by reckless or designing promotors, yet, if it is our desire to face all the facts, may we not recognize that even these men have not infrequently benefited the country by anticipating its needs and providing for them—to their own profit, it is true? Certainly, then, when the country has reaped these benefits, through the foresight, courage and persistent efforts of honest and far-sighted men, let us not deny them their reward nor condemn them because of their success.

Is in not inconsistent to boast of our nation's material prosperity and then refuse to recognize that this great territory could not have been developed and covered by a network of railroads if the inducement to investors had been limited to the reformer's "fair return?"

Has not the time come for the public to recognize that the tearing down of established industries, the constant dealing in destructive criticism, must of necessity result in injury to all the workers of the country, including the wage earners as well as their employers? Has not the time come to undertake seriously the reform of irresponsible reformers?

Conservation of our natural resources, so long neglected, is holding the attention of the people to-day. Shrewd politicians have found in this movement an effective rallying cry. Conservation of all of our resources is all important and is greatly needed, but this movement should not be confined to the forests, minerals and water powers, but should also serve to conserve the productive powers of capital.

Do the conscientious reformers wish to build their reforms upon the treacherous foundation of misinformation and deceit? Is not the investing public, which includes all who do not live up to their incomes, entitled to the truth as to the operation of our great industries? Furthermore, are not those who are interested in these matters, students in civics and economics, entitled to the truth? All those who claim to be honest in their studies should do their utmost to gather the truth from material furnished to them, and should refrain from hasty conclusions derived from superficial indications and investigations.

Largely through the influence of one man, tremendously forceful but distinctly lacking in judicial qualities of mind and temperament, snap judgment has become alarmingly prevalent in this country. Acting under this influence, reform movements, so-called, have been undertaken with the attention centered on the consolidated problem, without regard to other considerations involved in connection with the good of the community and the country. Established laws when found to interfere with these movements have been condemned, together with the judges who have endeavored to interpret correctly and enforce these laws. This is a manifestation of the very human tendency to take the law in our own hands when in our unwisdom we find the restraints of law preventing us from performing according to the impulse of the moment. It is the mainspring of lynch law; and lynch law and mob rule are to-day being encouraged in this land through the unguarded and indiscriminating denunciation voiced by reckless men.

The guiding aright of the public, the building up of a more judicial frame of mind on the part of the public, is one of the responsibilities of all broadly educated men, especially of those who are particularly qualified by education and practical training in the lines which are for the time under discussion. When I speak of educated men I do not mean those who depend alone upon what the schools and colleges can give.

The politicians, and even those who would wish to be appraised as statesmen, are over-sensitive of public opinion. Instead of trying to guide aright the public, they are keen to do and say, especially the latter, the thing which for the moment will attract the notice of and best please the public—the public which judges so largely by surface indications.

Therefore it all the more necessary becomes, in the interest of good citizenship and self-protection, that those who are not selfishly interested in the political game, and are in any degree qualified to influence rightly public opinion, should express themselves with intelligence and force, and so leave open to those who are keen to gain the public ear for their own selfish purposes, fewer opportunities to act the part of demagogues, a part all too popular in the year of grace 1910.

Some of my hearers will bear me out when I claim to have been for many years an advocate and worker for fair business methods, and especially for a constantly careful regard for the rights of the public. I have been a consistent advocate of a harmonious blending of theory and practice and have not infrequently been forced to fight the battle of the theorist. But the day has come when we must recognize that there is in this country too much theory. And here I do not have to recede in the slightest from any position I have taken in the past, for I have always contended that the theory must be complete, must take account of the practical conditions necessarily to be met, and especially must take account of the complex and contradictory make-up of the average human being, the agent necessarily to be em-

ployed in practically testing any suggested theory. I have always contended that if I had a chance to choose between the inexperienced and non-practical theorist and the non-theoretical practitioner, I would choose the latter, though further holding that the day had come when, to live up to his responsibilities in connection with the world's activities, the practical man should be a patient and sympathetic student of theory.

To-day the country is loaded down with theories promulgated by men, yes and women, many of whom would be found incapable of earning a fair living if left to shift for themselves. We find government officials drawing comfortable salaries for exercising control of the operations of corporations in many and varied lines of industry, who, if left to their own resources as actual producers in a single line, would have difficulty in earning a scant living for themselves and their immediate families.

You may ask me to be more specific in suggesting remedies, remedies for which we are responsible, collectively and individually. I can only say that it is for us, in connection with our vocations, and as other opportunities occur, to apply our knowledge and training in testing, and, if need be, correcting the statements given out so authoritatively by those whom we may have reason to believe are unqualified to lead, and *not be held back because we may fear that our personal interests may be so jeopardized.* To those who are inclined to be over-cautious let me suggest that the majority of men and women respect courage and fair play. People will follow a brave man even when it should be evident that he is leading them astray, and that his courage is not coupled with straightforwardness and honesty. There have been of late in this country notable cases of this kind; men so astute as politicians as to recognize that the temper of the public made it safe for them to depart radically from the truth and the more secretive methods of the ordinary politicians and so come boldly into the open, if it was to lead the people against any established interest, good or bad. If, then, we have the facts to support us, certainly we shonld have the courage of our convictions.

Let us also remember that if we do not speak out as we believe, those who are placed over us by governmental authority are deprived of opportunities to learn where they are wrong, and may so be more likely to proceed to further indiscretions and injustices.

I am reminded of a professor who, by reason of the increasingly high character of the answers to his very difficult examination papers, year after year increased the severity of his examinations, until students who would not cheat in any other department felt justified in cheating in his examinations. A conscientious student appealed to me just before his examinations and said it was apparent, from the reports handed down from previous classes, that he must either cheat or accept a condition. I told him, "Not so, tell the facts frankly to the professor." He did so, and the professor was horror stricken and later excused himself to me by saying: "The boys passed such fine examinations that I imagined I had underestimated their capacity, and so I made the papers harder each year; how was I to know that they were too hard or unfair if the students made no complaint?"

I take it that, dealing with fair men, we need not fear antagonizing them by honest criticism and candid expressions of differences of opinion. If they are not fair men, then we might as well bring on the conflict as quickly as possible and so learn where we really stand. Such has been and will be my line of procedure, and I do not expect thereby to sacrifice the good opinion of any whose good opinion I value.

To be more specific, as is to be expected in a paper before a body of practical men, let me cite, by way only of example, a few of the many cases which have come under my eyes during the last few years of Public Service Corporation management, and particularly in connection with Public Service Commission control.

I imagine that most of us believe that a measure of control through such commissions, provided it is properly limited, is to be be welcomed. Years ago many of us advocated such control that we might at least gain freedom from the promoting raider and his greedy partner in the legislature, a partnership which continually demonstrated by its operations that we did not enjoy the monopoly charged against us. But we did not expect to have both legislature and commissions to deal with. Nor did we expect that the commissions would be given power and authority in the three branches of government—legislative, executive and judicial—the three branches which according to our own form of government should and must be kept separate and apart. Let it be understood that as a general proposition I am not opposed to Public Service Commissions, but I do hold that their control should be confined within far narrower limits than at present; and I venture to prophesy that unless this is done—that if control by commission is permitted to develop along the lines as at present, including the three departments of government named, we have seen the beginning of the end of our form of government.

In any case we cannot expect that the members of a commission, authorized to control public service corporations in several lines of activity, will be found competent in all of these lines, including the refinements of construction and management; assuredly not unless the members are selected for their training in practice and theory as well as for integrity. We may well take a lesson here from our cousins of Great Britain, who recognize in this connection that other qualifications are required in addition to those obtained through legal training. And yet in connection with government by commission we too often find men without practical experience not only willing but anxious to decide questions which cannot be determined safely without full experience coupled with good judgment. They rush in where angels would fear to tread.

Too often members of our commissions have shown a disposition rather to encourage than discourage the hostility between classes which has of late been so much in evidence. The gas men of Massachusetts, and we of the Second District of New York, are, therefore, to be congratulated that the commissions to which we are subject are earnest in their efforts to prevent troubles and to adjust difficulties between the public and the corporations, rather than to cultivate them.

Have we not the right to demand that our governmental bodies—commissions, legislative investigating committees and the like—and students of economics, should be careful and conscientious in the extreme not to spread misinformation through faulty data and statistics and through the incompetent analysis of even correct data? But it must be admitted that such has often, yes generally, been the result of this fever for governmental control which has spread of late so rapidly and widely over our country. Sometimes this has been due to ignorance, sometimes to a desire to misrepresent and mislead, and sometimes to both ignorance and a desire to misrepresent and mislead. I quite appreciate that this last is a serious charge to make and I, therefore, regret to say that I make the charge advisedly.

The first case I shall cite was undoubtedly one due to ignorance; for a friend of mine, competent and fearless, serving on the same body with the man at fault, assured me of this man's desire to be fair.

While testifying before a certain legislative committee, I was asked the following question by a member of this committee: If 10 per cent. can be earned selling gas at $1 a 1,000, does it not follow necessarily that 6 per cent. can be earned by selling gas at 60 cents a 1,000? It might well be supposed that the question was asked hastily and without thought, but the question was pressed and I was accused by the questioner of quibbling when I replied in the negative. After adjournment, while informally talking matters over with a few of the committee, this questioner being one of the number present, I was unable to make him see that his question was absurd, and that it could be answered affirmatively only if the gas cost nothing and so the selling price were all profit. And still this man had a vote on a matter of the gravest importance, involving the protection of the legitimate investment of millions of dollars. He was one of the three members of the committee chiefly quoted in the reports appearing each day in the press. Another member of this committee, one of the three just referred to, made a written request that the company whose affairs were under investigation furnish the committee with a statement covering a number of years, showing the *cash* profit for each year, the amounts paid in dividends and a detailed account of what was done with the surplus *cash* remaining each year after the payment of the dividends. It was apparent that this questioner was of the opinion that profit must be represented by cash on hand and that he expected to find undivided profits represented by a corresponding increase in the bank account.

In this same hearing the term surplus was found to be a bone of contention. Many of the witnesses against the corporation under investigation, as well as certain members of the committee, insisted that surplus meant cash on hand, held ready for an extra cash dividend to the stockholders as soon as an opportunity could be found to make such a distribution without attracting unfavorable comment. Suggestions were not infrequently made that certain proposed betterments and extensions, for which additional capital was required, should and could be made from this mythical cash surplus. When it was shown that this surplus had already been invested in works and main extensions, this explanation was regarded with suspicion. I suggested that it would be difficult to pay for the

main extensions of this year with the surplus invested in the main extensions of the previous years, and that there would be no real gain in converting into cash the latter investments to meet present demands. I was evidently talking to some of the members of the committee in an unknown tongue.

In this investigation we also were faced constantly with a difficulty which all public service corporations are forced to meet when under investigation as to rates of charge. I refer to the fact that all surplus is regarded as money taken from the consumer through excessive rates of charge, irrespective of the consideration to be given to the rates of dividends paid in the past, and to the quality of service and management and the right which a well governed concern should have to enjoy, in part at least, the fruits of highly efficient and economical management. For instance, I have at times been able to point out that the surplus under examination resulted, not from excessive earnings secured by high rates of charge, but from the character of design, construction and management of the property far above the average as to efficiency and economy, and the conservative policy of declaring small dividends during the early years of development and so meeting part of the demands for additional capital for extensions from these undivided earnings. It seems strange that it should be questioned by practical men—but perhaps we no longer are practical as a nation?—that some margin between dividends and earnings should go into the building up of the company's fixed assets. Anything short of this would be considered by the prudent investor and by the public, while investigating for investment, as reckless and indicating unsafe management; but in connection with investigations as to rates of charge, such building-up of surplus through undivided earnings is regarded with suspicion. Many companies under commission control, have placed themselves in an uncomfortable position as to this question of surplus by failing to represent from time to time such net surplus earnings by the issue of additional securities. Too often commissioners and committee men fail to recognize the difference between watered securities and securities issued against fully proved surplus. Many investigators refuse to admit that the rate of charge should be based upon total property value, irrespective of the face value of securities; though they are prompt to claim that the face value of securities includes water, if this value cannot be found in the tangible assets alone.

In the case of a private corporation engaged in an ordinary competitive business, especially in a close corporation composed of few stockholders, it may be justifiable to show plant account at a nominal amount when the actual value is to be reckoned in hundreds and thousands of dollars; but it certainly is not wise nor honest to the stockholders to follow this course in the management of a public service corporation subject to governmental control. In the latter case the books should show the facts at all times as nearly as ascertainable, the assets being shown neither deflated nor inflated. I am not at this time raising any questions as to intangible assets, though I hold that it is nothing short of ridiculous to give a dead plant the same value as a live plant of the same physical character, serving a business of large proportions and healthy character; but this is what the case resolves itself into if only physical assets are valued without regard to their comparative efficiencies and economies in service.

And one cause of difficulty in this connection is to be found in the fact that some companies have been in the habit of confusing reserves for depreciation and other accruing or contingent losses with surplus. A reserve, correctly estimated to the best of our knowledge to meet depreciation, is in no sense a surplus. It is a liability to the company as a whole, not a liability to the individual owners. No portion of such reserves should be considered or treated as surplus until conditions have developed to demonstrate that the accruing liability has been overestimated.

Depreciation affords endless opportunity for misinformation and misleading statements. The subject is a difficult one at the best and should, therefore, be treated frankly with an intelligent appreciation of its inherent difficulties. It should be recognized at once as a difficult subject to adjust on the books of account. Our public service commissions have not infrequently demonstrated their inability to handle the subject advisedly.

One of the many sources of error is often apparent in the hearings referred to. Suppose the witness opposed to the company is making an appraisal of plant. He makes his appraisal, say, on the basis of reconstruction at present prices and under present conditions. Then he quotes some authority, real or otherwise, as to the life of a certain character of property (an absurdity in itself), and, without taking into account the local controlling conditions, applies that life to the case in hand to determine the deduction to be made for depreciation. I have found commissioners and their employees falling into this error. In a case in which I was deeply involved the opposing expert representing the city quoted my testimony in a well known case as claiming that the life of gas plants *in general* was 40 years; which, of course, I never had thought, believed or said. Using me as his authority, he assumed the average life of the plant under investigation as 40 years, and then claimed that the average age of the plant was 20 years, and so had been exhausted to the extent of half its life, and on this basis he deducted for accrued depreciation. That is plausible to the uninformed (commissioner or layman), but is absolutely without warrant in common sense. In the case referred to, unknown to this witness, for he had made little effort to learn the facts, the plant had been largely rebuilt a few years before, and so the whole assumption as to the age of this plant was vitiated. And this serves to show why such a line of reasoning is faulty of necessity. If we make an estimate of accruing depreciation to *guide us as to the future*, we do so on certain established and certain other conditions assumed. We ascertain the present condition of the plant and assume what is to be paid for out of current income to keep the plant in effective operating condition. We do not know as to the future, nor is it likely that we can control the future for the whole period covered by the estimate; certainly not if the management passes out of our hands. We assume what renewals will be paid for from current income as direct charges to current P. and L. accounts, and what renewals shall be charged later against depreciation reserve. To apply the fallacious method referred to, it would be necessary to analyze in detail the operations of each of the preceding years to determine if the plant *had been operated and the books kept absolutely in accordance with the conditions involved in the depreciation estimate.* This is out of the question, and in such a case would be entirely unnecessary and senseless. We make an estimate of what we believe will be the accruing depreciation due to physical decay, obsolescence and inadequacy, because that is the best we can do looking into the future. But when we have the present facts spread out before us there can be no warrant for depending upon a prophetic estimate made years before. This is well exemplified in the practice which should govern in all cases of estimated depreciation, namely, year by year the estimate should be checked up, and corrected if need be, from a consideration of the actual facts as developed in operation. The blind following of a depreciation estimate, especially a general estimate, is folly or worse.

But when we have an appraisal to make, the facts are in a great measure ascertainable by inspection of the visible plant, and even in the case of underground structures, the facts are in a great measure ascertainable by isolated examinations and investigation of operating methods. Then why go to an estimate made 20 years ago when we have the facts at our hands? Especially, why depend upon an estimate for another plant, different in character, built and operated under different conditions, and with book values made up under an entirely different system of accounting? If we were asked the cost of a certain completed installation of complicated character would we go to the original estimate of cost or to the books of account which show the actual expenditure? Before leaving the subject of depreciation I wish to have it understood that I do not admit that *any* deduction for depreciation should be made in the appraisal of plant in connection with investigations bearing upon rates of charge, provided the plant has been so maintained as to give high-class service to the public; but that is too large a subject to discuss in this paper.

I am reminded of an interview I had with the President and a Professor of Economies of one of the most prominent and influential universities in the country, an institution which has definitely influenced the legislation (reform, so-called) of the State in which it is located. I was testifying for a certain company before the State Commission, and the case largely hung on the question of depreciation. Some testimony on depreciation, remarkable for its freedom from common sense, had been given by the engineer of the Commission, also a Professor of this University. I was asked to meet at lunch the two gentlemen first referred to. Against my desire, for I wanted to get a respite from "shop" talk, the conversation drifted into a discussion of depreciation. The President of the University took firm ground on the proposition that practically every public service corporation in the country was loaded down with "water," that all plant and construction accounts were inflated, and that no companies were really providing for depreciation from income. He evidently doubted the accuracy of the statements I made in opposition

to his statement as applying to the majority of our gas companies. Here, as I said, I was in many cases able to speak from the facts within my knowledge, and would have to insist upon my statements being accepted as opposed to the hearsay evidence too readily accepted by college theorists.

The Professor of Economics—well known for his pronounced views and reckless statements—was talking at the other side of the table and so failed to hear a question addressed to me by the President. The question was, "You surely do not claim that income set aside to meet accruing depreciation can be expended for renewals?" I replied, "Certainly I do, provided the bookkeeping methods and the basis of estimate on accruing depreciation are in complete accord." The Professor, not having heard the question and reply, then asked, "You surely do not claim that income set aside to meet accruing depreciation can be expended for extensions of plant or for new plant?" Again I replied in the affirmative, and added, "The problem is to take out of income a sufficient sum to keep our assets at par and to spread this burden of cost uniformly over the periods benefited, taking care that money spent for renewals and up-keep shall not be covered by additional securities issued." As they disagreed with me, without appreciating as yet that they disagreed with each other, I drew attention to this disagreement between themselves and suggested that, as two men of theory representing a University of influence, and learning, it would be well for them to compose their differences so that the teachings of the several departments of the University might not be found in conflict. Here we have representatives of the type who are influencing legislation and teaching the young men of the country, and who are claiming that the future of the country is only to be safeguarded by the college men. Then, as I have said before in public, God save the country from such saviors.

This reminds me of another experience. I was invited to deliver a lecture before the postgraduate students of a certain university of world-wide reputation. The subject was the relation of engineering to business administration. A certain member of the faculty, professor of some branch of economics, and a most courteous gentleman, was delegated to meet me and escort me to the university. On the way he commenced to discuss an important gas rate case in which I had been engaged for many months, and with which I was thoroughly familiar as to the facts disclosed by the books and testimony. This professor did not know of my connection with the case and so launched out in a most unfettered denunciation of the company's position. It was his privilege to disagree with the company's representatives as to the claims made but not on the statement of facts he presented, which statement was faulty from beginning to end. Finally I asked him where he obtained the figures upon which he based his arguments and he replied, from the newspaper reports of the trial. The reports to which he referred were not only incomplete but they were grossly misleading. I then told him of my connection with the case and showed in considerable detail wherein the data he relied upon was at fault. He then acknowledged that if the newspaper reports were incorrect his position was not warranted. I then asked him if he was in the habit of lecturing to students of the university on current economic topics on the authority of the newspaper reports, these reports frequently prepared by reporters absolutely incompetent to analyze a balance sheet or to comprehend the technical features of the testimony. He acknowledged that such was his practice, though he tried as far as possible to verify his data before accepting for lecture purposes.

And so are many of our young men misdirected in connection with the so-called higher education. If this were the best that could be done for them in the institutions, it were better to send them out into the field of work to learn by hard experience. It is greatly to be regretted, and particularly so at this time of unrest, that so many of our professors of economics are theorists only, and have apparently no appreciation for the controlling influence of the practical conditions necessarily involved in the application of their theories. If they investigate, therefore, they do so without getting below the surface. Too often their investigations are unscientific from the start because the effort is to prove a proposition already accepted rather than to hold the mind open for the reception of all available truth. They are trying to bolster up an accepted theory rather than to develop, through investigation and research, a correct and complete theory. Whether these men are in the majority, or whether they press forward into public view more than the better qualified students of economics, I am unable to say; but let that be as it may, we may well be thankful for the services rendered to the country by the professors and other students of economics who are honest, capable and sane.

I am not decrying higher education, but I am entering an earnest protest against much that is taught in our universities and colleges by men of books, who find an easy way to attract attention by assailing established institutions; especially I protest at the incompetence and prejudice often displayed by professors of economics. I prophesy that those responsible for the management of some of these institutions of higher learning will yet find cause to regret the freedom accorded to these apostles of socialism and anarchy. But it is probable that before the final result of this kind of "Higher Learning" is experienced, some of those responsible for permitting these men to occupy their chairs will be comfortably buried and so escape any participation in the sad outcome of this loose and foolish interpretation of the right of professors to unrestricted freedom of speech. Suppose a professor of physics chose to teach perpetual motion, should such freedom of speech go unchecked?

The last case to which I shall refer furnishes a striking illustration of failure on the part of a certain Commission, or its subordinates, to correctly present operating results in its published statements. In the early part of this year, the sales, gross earnings, operating expenses, profits, etc., of a large company, within the jurisdiction of the Commission, were given out for publication in tabulated form by the Commission's chief statistician. These statements grossly misrepresented the affairs of the Company in question, and were apparently designed to convey an impression of an immense increase in profits in the face of a material reduction in price. The volume of sales was not only overstated nearly 14 per cent., but the gross earnings were proportionately inaccurate and, furthermore, included receipts entirely inapplicable to the proposition under discussion. From the expenses were omitted such items as taxes and uncollectible bills, and in the profits were included inter-Company dividends to the extent of several hundred thousand dollars, involving duplication of profits to this extent. The result of this distortion of the facts amounted to an over-statement of the Company's net revenue to the extent of 55 per cent. of the correct amount. The fact that millions of dollars of bonds had been converted into capital stock, thus enormously increasing the net profits as found after deducting of fixed charges, was entirely ignored. The comparison between gross profits applicable to bond interest and dividends was significantly omitted. From every point of view, the statement was utterly worthless—whether from that of the investor, the stockholder, the statistician or the student of economics or civic questions. The only conclusions which could be drawn from it would be necessarily false and misleading. It amounted in brief to a gratuitous exaggeration of the Company's prosperity, which could only be attributed to a deliberate design to deceive and mislead the public or to culpable negligence or gross ignorance.

Public service commissioners cannot escape responsibility for the acts of their subordinates in publishing information gathered from the reports of the companies within their jurisdiction, when such statements are compiled so as to be misleading. In their desire to magnify their importance, or for political or other purposes, certain of the statisticians, accountants and experts connected with these commissions are too eager to issue statements in the name of the commission, which are not only inaccurate, but designed to be sensational. They often serve only to inflame and prejudice the public mind with respect to the corporations. Such voluntary contributions on the part of the commissions' subordinates are certainly no part of their function, as outlined in the public service commission laws, and should not be tolerated by the commissioners, the public or the corporations. Such misleading statements from the hands of subordinates should call for prompt and frank corrections from the commissioners and the disciplining of the guilty subordinates. These subordinates are employed and paid by the commission and are presumably subject to its control. For them to be permitted, unchecked by the commission, to give free expression to their personal hostility, however inspired, towards the companies, employing for that purpose, in garbled and distorted form, the facts and figures which the companies are compelled by law to place at their disposal, is a monstrous perversion of the spirit and intent of the public service commission acts.

If the commissions and others in authority are really desirous of improving conditions, then every possible care should be taken that all statements given to the press for the information of the public are as nearly correct as your trained human intelligence can make them. Certainly if statements are to be made to the

public, based upon analyses of data open to question, the representatives of the corporations should at least have the right to discuss these statements with the government officials in advance of publication.

It should be remembered that these statements are not only for the public in general, but they are particularly studied by investors, those interested in civic questions, and the student of economics. All of these, and even the reformer, if honest, are entitled to true and intelligent statements. Certainly the investor should not be led astray by such grossly misleading statements as the one I have just discussed.

Brokers and others wishing to influence the prices of securities should not be furnished with weapons by the authorities charged with the duty of acting between corporations and the public for the protection of both.

Let me particularly refer to one detail in financial statements which lead often to confusion or worse. I have in mind the different meanings attached to terms of accountancy—earnings, income, net income, profits, net profits, surplus, etc. Where an amount is stated as profit there should be no question as to what is intended. It should be shown clearly whether the amount named is the total profit applicable to the payment of interest on bonds and dividends and the building up of surplus, or whether it is net profit remaining after providing for fixed charges. If comparisons between years or with other companies are to be made, the comparisons should be made on the same lines, and it should be shown by the statement exactly *what is the basis of comparison.*

In short, there should be, on the part of the commissions particularly, a desire evidenced to educate the public rather than to mislead them, and this should be done through the medium of carefully prepared public documents, not through hastily prepared special briefs aimed at the corporations coming under their supervision.

I for one cannot believe that we who are responsible to our stockholders for the conduct of public service corporations have the right to submit to misrepresentation, even when that misrepresentation comes from a commission which has been given a power of supervision and control over us, and though in the hands of unscrupulous and vindictive men this power may be exercised against us later by way of retaliation.

The President—I think a vote of thanks should be given to Dr. Humphreys for his able paper. [A motion to such effect was made and carried into effect.]

The President—We have now the paper, on

CONTINUOUS CARBONIZATION IN VERTICAL RETORTS,

by Mr. J. S. DeHart, Jr., which was read by the author as follows:

This paper covers a short description of an experimental bench of vertical retorts of the Woodall-Duckham system of continuous carbonization, at the La Grange Station of the Western United Gas and Electric Company, Aurora, Ills. It was built practically on the plans of the experimental bench at the Nine Elms Station of The Gas Light and Coke Company, London, England, with the idea of studying the working of American coals in American retorts.

The bench consists of 4 retorts, 25 feet long, oval in section, 9 inches by 21 inches at the top, 20 inches by 29 inches at the bottom, heated by a producer with twin grates and twin charging holes, all supported on steel platform, 10 feet above grade. The upper mouthpieces are fitted with separate feeding drums, each operated at a speed to keep the retorts full of coal. The lower mouthpieces of each retort are fitted with a coke extractor and revolving drum. The speed of the coke extractor controls the carbonization in each retort. The coal feeding drums make a ¼ revolution a minute, the coke extractors make a ½ revolution an hour and the drums discharge 4 times an hour.

The bench is located at one end of the retort house and is run in connection with horizontal benches, or alone as the gas supply will allow. Retort house governors control the pressure for each system. Coal is passed through a small crusher and raised by an elevator to a 24-hour storage bin above the retorts. The coke is taken away from the bench in wheelbarrows. A small vertical engine runs the coal feeding drums and extractors.

The heating of the bench is very simple. All the producer gas goes directly to the top of the combustion chambers, where it is distributed by 4 dampers. The furnaces have angle iron grate bars and step grates for the supply of water; but, in addition to the above, steam is used and measured by disks and regulating valve. The furnaces are cleaned once each 48 hours and are practically free from clinkers. Secondary air passes through a recuperator in the back wall of the bench, across the bottom, and is distributed to the top and middle of the combustion chambers by 4 dampers. When the proper distribution is obtained the main stack damper controls the heats. All the firebrick material, with the exception of 3 retorts, was made in this country. The 3 retorts are machine made and imported from England.

The bench was completed about September 1, 1909, and was operated until February 1, 1910, the greater part of the time in conjunction with the old benches. The bench was not protected from the weather until late in the winter and the coal available was taken directly from the cars in a more or less unsatisfactory condition at times. In November it was possible to shut down the horizontal benches for 10 days, during which time the following average results were obtained from Youghiogheny coal:

Coal used, pounds	20,151.00
Coke made, pounds	14,841.00
Gas made, cubic feet	108,637.00
Generator fuel, pounds	3,598.00
Yield gas per pound coal	5.39
Coke yield per cent. coal	73.6
Generator fuel per 100 pounds coal	17.89
Generator fuel per cent. coke made	24.30
Candle power on Sugg Argand, D	14.47
B.T.U.'s gross	609.00
Candle feet	77.91

The data is not as complete as we would like to have it, but it may be of interest to your members. It was impossible to maintain proper temperature conditions in the foul main and condensing apparatus, and the gas passed through a relief holder in going from the condensing apparatus to the purifiers. Dewpoints were not taken at the works during this test, so that the candle power corrections are for 60° only. While these results were fairly satisfactory, taking into consideration the conditions under which the plant was run, the top labor and the leaky drums were a constant source of trouble for uniform operation. The horizontals were again shut down in January, 1910, for 10 days, during which time we experimented with the heating of the bench as much as this design would permit, with the idea of eliminating the bridging at the top, so that no reliable data was taken at this time except to get a general line on the tar and ammonia in the gas. This would indicate that we can safely anticipate 7 pounds ammonia and 14½ gallons tar per ton of coal carbonized.

After shutting down the bench in February, it was decided to remove the revolving drums and substitute cast iron hoppers and balanced self-sealing doors. The bench was again started in August, 1910, with the hope that it would be possible to shut down the horizontal benches for a considerable time. It has been impossible to do this, however, so that the vertical bench is now running in conjunction with the horizontals. The hoppers and self-sealing doors are extremely simple to operate and are discharged once an hour, requiring less than 1 minute, and are absolutely gas tight. At the present writing there is still considerable bridging at the top, but changes are under way which it is hoped will practically eliminate this trouble, even with the high volatile Youghiogheny coal. We could undoubtedly eliminate a great deal of tronble of sticking in the top section with a low volatile coal, but up to the present time have devoted all of our attention to the successful carbonization of the high volatile coal, such as is more generally used by gas companies.

The President—Are there any gentlemen who would like to discuss this paper by Mr. DeHart? If there is no discussion, having finished our programme for this time, the meeting stands adjourned until 10 o'clock A.M. to-morrow.

SECOND DAY—MORNING SESSION.

The President having called the session to order at 10:30 A.M., said: I had intended, as the first topic for discussion this morning, to take up the paper of Mr. DeHart, for I thought some members might like to speak on that subject. Mr. Ellis, who has lately put in an installation of vertical retorts, asked yesterday to have a little time to speak to the members on that subject, but as neither of them is present we will postpone that discussion till later. The first paper on the programme this morning is that by Mr. Thos. Scofield, of New York, on

THE LIGHTING AND VENTILATION OF GAS APPLIANCE DISPLAY ROOMS.

Mr. Scofield then read his paper as follows, illustrating the same with lantern slides:

There are few buildings at the present time entirely devoted to the display and demonstration of gas in all its various uses in all its dif-

ferent fields. Few buildings which can be pointed out for certain installations which have been in operation and in ordinary use, while tests and data have been taken for the benefit of the scientific world as well as the general public. Few buildings which can be shown as completely equipped with the latest appliances, which are in actual test and demonstration the entire time. In these respects the Gas Appliance Display Rooms, 29 East 21st street, New York city, are unique, and of great interest to the gas world. The building itself is a 5-story-and-basement, loft building which has been taken as the main office for the General Fuel Appliance Department of the Consolidated Gas Company, of New York, and for the display and actual demonstration of appliances, not only in the domestic field but in the fields of art and manufacture. (Fig. 1.)

Fig. 1.

The first two floors and the basement are devoted to the actual display of appliances, the basement containing the large hotel ranges, broilers, steam tables, furnaces, blast appliances for use in the industrial arts, smokehouses, bakers' ovens, a model kitchenette, a model laundry with clothes' dryer (Fig. 2), washer, mangle and gas

Fig. 2.

iron, hot water heaters, and in short all appliances of the larger type now on the market, all of which are not only on display but ready for instant and practical demonstration.

Here is also found the gas boiler which furnishes all the steam for heating the building (Fig. 3). On the first, or store floor, are shown the smaller gas ranges of all styles, the small heaters and radiators, and the many accessories and small appliances which use gas, completely covering the domestic field. The second floor is laid out as a model apartment, consisting of 5 rooms and bath, and offers a striking example of artistic and scientific illumination with gas as the illuminant. The third, fourth and fifth floors, are devoted to offices

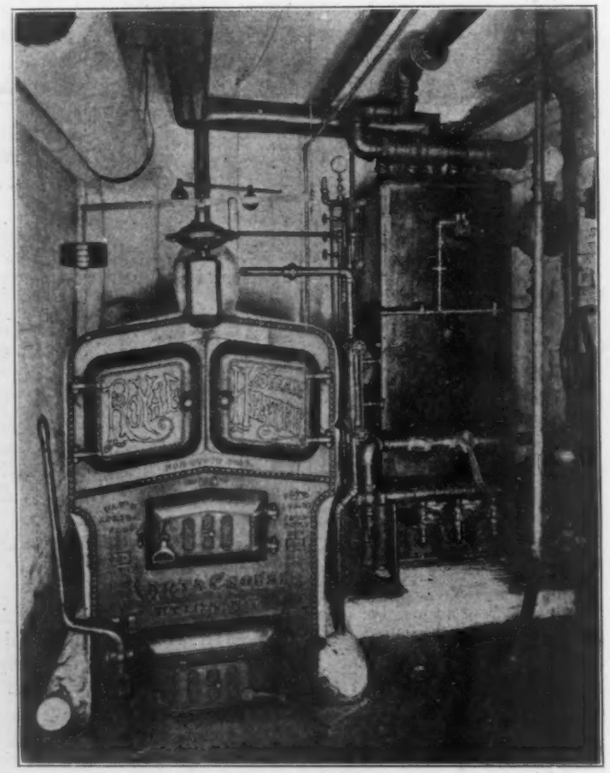


Fig. 3.

of the General Fuel Appliance, New Business and Illuminating Engineering Departments. Thus the same building offers a practical demonstration of store, window, home and office lighting, combined with the display and demonstration of appliances of all kinds.

The basement is lighted with 8 gas arcs, or clusters. This unit consists of a 4-mantle inverted cluster with alabaster globe, each unit operated by chain pull. This installation offers an opportunity of seeing what can be done with the gas arc in the way of efficient and economical illumination.

The store floor (Fig. 4) being used as a place of exhibition of

Fig. 4.

smaller gas ranges and the innumerable small domestic articles whose general tone is dark, or in fact black, had to have a light color scheme. This has been provided by having the walls colored a light cream with the ceiling pure white, the woodwork being also white. In this manner the maximum illumination from the units installed is secured. These units consist of an 8-light combination electric and gas fixture. They are each equipped with four 40-watt, frosted-tip, tungstens, and four reflex burners, with clear inner cylinders and the glassware for both the gas and electric lights is holophane, satin finish, distributing reflectors (Fig. 5). The great similarity between

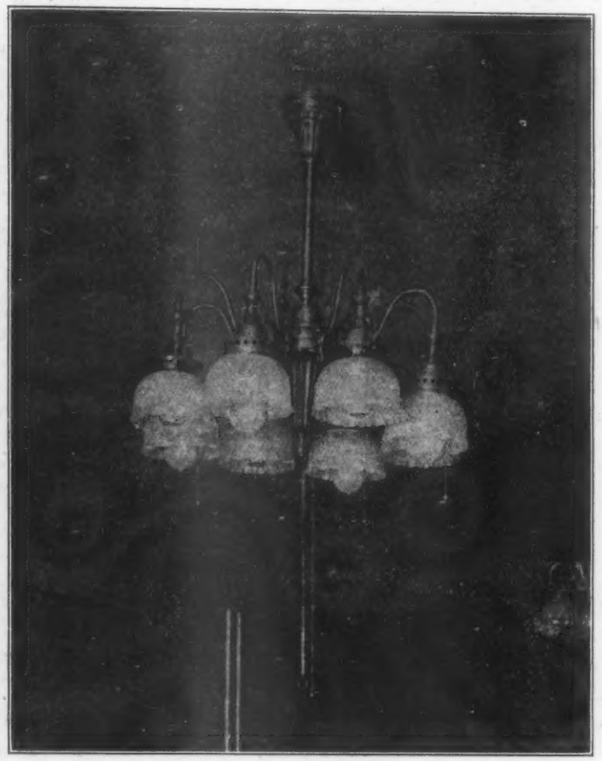


Fig. 5.

the units is clearly shown. They both have practically the same physical contour, both derive their light from an incandescent body, in each case nearly cylindrical in shape, both incandescent bodies are inclosed in a glass bulb, and hung from a frame or bracket, and the same glassware can be applied to each and the same distributions secured. Both units can be lighted or extinguished by the pull of a chain, and when either burns out can be replaced with a new unit. The adjustment to maximum intensity of the new incandescent mantle can be compared to the selection of the correct voltage lamp for the electric circuit, and, as far as outward appearance goes, there is so little difference that, unlighted, one can easily be mistaken for the other. As the store is too deep to allow for a satisfactory daylight illumination throughout its whole length, the reflex burners, on the fixtures near its center, are used practically all day. The daylight value of the incandescent burner is well brought out here, for the color of the illumination from them is so close to the true daylight that to all appearances the entire store seems to have the same uniform illumination. For the purpose of testing this installation, and to determine the mean average value of the illumination, the rear portion of the floor was divided into 4 equal rectangles. One of these was subdivided into 10 smaller and equal rectangles, and a test station established at the center of each of these (Fig. 6). At each of these stations horizontal illumination values were read on a Sharp-Millar photometer, the instrument having been standardized at the Electrical Testing Laboratories before these tests were made. Several readings were taken at each station in order to eliminate as far as possible the personal error in reading the photometer. The average of these readings at each station is the figure recorded in the tables, and the mean of all these averages is assumed to give the average illumination of the area tested. Pressure was measured by a U-tube manometer and readings on the meter, installed for this floor, taken for long enough periods to assure accurate consumption figures. The results follow:

FIRST FLOOR.—*Observed Horizontal Illumination Values.*

Station.	Foot-Candles.	Station.	Foot-Candles.
1	1.163	6	2.273
2	2.183	7	5.385
3	2.445	8	4.673
4	2.715	9	5.805
5	2.700	10	5.490

Maximum dimensions of floor	91′ by 23′ 0″
Height to ceiling	11′ 10″
Height to mantles	10′ 0″
Height to test plane	2′ 9″
Height mantles above test plane	7′ 3″
Number of outlets	7
Number of burners per outlet	4
Total number of burners	28
Distance between outlets	12′
Total gas consumption, cubic feet per hour	96
Average consumption per burner	3.43 cu. ft.
Pressure, inches of water	1.7
Total area of floor tested, square feet	1,105
Cubic foot gas per square foot, entire floor	0.055
Number of test stations	10
Average foot-candles	3.483
Lumens per cubic foot of gas	70.13

The curves (Fig. 7) show graphically the illumination values obtained, and, although no attempt at uniformity of illumination was made when the installation was laid out, show but small fluctuations in intensity. No special adjustment of the mantles was made for this test, the installation being in normal working condition, as it has been kept by the regular maintenance system for over a year (Fig. 8.) The display windows are each lighted by 12 reflex lights, arranged in 2 rows of 6 in each window. These are equipped with satin-finish, holophane distributing reflectors and clear inner cylinders, and are controlled on a pneumatic system, one pump operating each 6 lights. The height from the window floor to ceiling is 10 feet 3 inches, and the height of mantles above floor, 8 feet 10 inches. Horizontal foot-candle readings were taken on the photometer on a plane 6½ inches above the floor, giving an average illumination of 29.6 foot-candles.

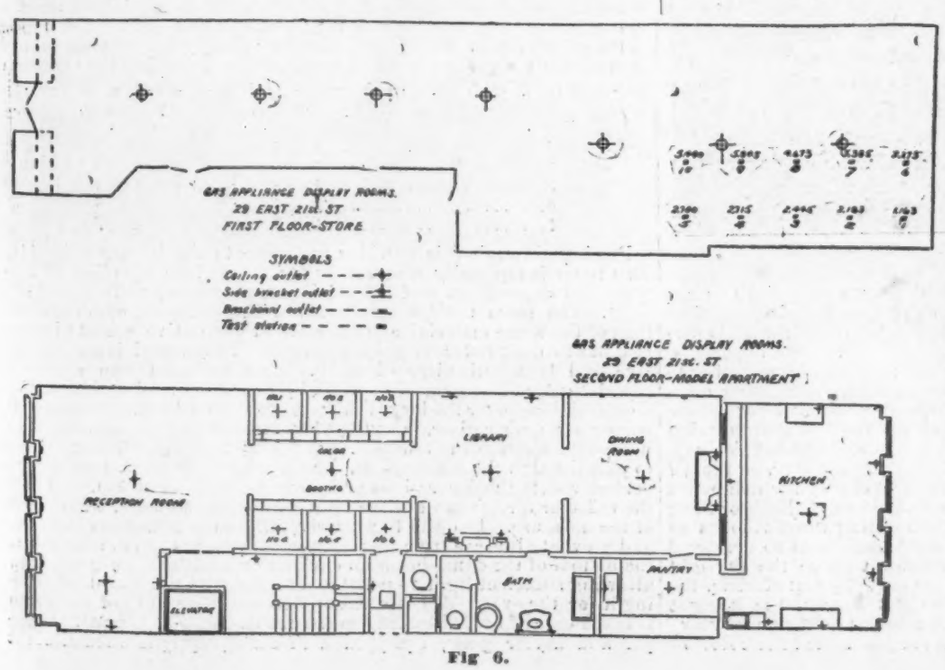


Fig. 6.

The second floor is occupied by the model apartment. Here the most modern and improved methods of lighting for the home can be seen, and a splendid idea of what can be done with gas when treated scientifically, and yet artistically, can be gained. The front room is a combined reception and business room, and is decorated in green, offering a restful and cool place for the demonstrators and visitors to the building. The lighting is taken care of by a central fixture, carrying four reflex burners, with frosted tip, inner cylinders, and fancy fluted alabaster shades. A 2-light reflexolier, and a side bracket similarly equipped, in the alcove, complete the installation, which is not only very efficient with its soft diffused light, but very artistic and in thorough keeping with the room and decorations (Fig. 9). One of the most interesting exhibits in the building is located in this reception room. It is the sochrodometer, an apparatus

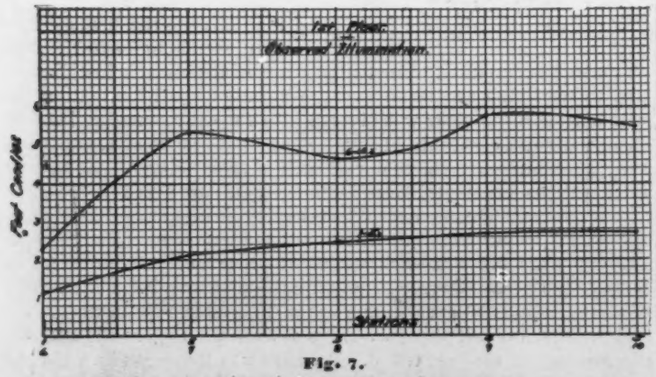


Fig. 7.

Fig. 8.

Fig. 9.

for demonstrating the different colors the same material can assume when viewed under different illuminants, and at the same time showing its true daylight color. The derivation of this word is perhaps of interest, it having been coined specially for this apparatus. It is derived from solar, relating to the sun; chromatic, referring to color; osendo, meaning false, and comparimeter, designating comparison, therefore literally meaning a false comparison of sun colors. The apparatus itself stands on a table at the front of the reception room and near its easterly window. It is made of brush-finish copper, and stands 3 feet 6 inches high, by 5 feet 5 inches long, by 1 foot 7 inches deep. It is divided into 7 compartments through which bands of various colored ribbons travel on an endless belt. Each of these compartments has a different illuminant lighting these ribbons as they pass through the compartment. The machine is so arranged that either end may be placed near a window to give the daylight effect, the other compartments having the incandescent electric, the tungsten, the electric arc, the flat flame gas burner, the upright Welsbach, and the inverted Welsbach incandescent light respectively. Arrangement is made so that a person having some definite color o material to try, can attach the sample to the belt of ribbons to get the color values under all lighting possibilities, and at the same time a comparison of these values with direct daylight.

Between the reception room and the library is a corridor, on either side of which are 3 booths. These booths are all exactly the same size, that is 5 feet wide by 4 feet deep, by 9 feet 4 inches high, from ceiling to floor, and they are used for an occult demonstration of the effect of various colors in decorations and hangings, on the efficiency of the lighting installation. This fact has long been known to the illuminating engineering world, but has not been put before the public in a demonstrative way before (Fig. 10). Each of these 5 booths-

Fig. 10.

the 6th comprising a cloak room and anteroom, is papered with a different colored paper, and the curtains in the door of each are lined with the same color as the walls of the booth. All the papers are of as nearly the same texture and surface as possible, so that the effects shown are dependent principally upon the color alone. For illumination in each booth a single reflex drop is hung from the center of the ceiling, each equipped with clear inner cylinder and clear holophane distributing reflector, so that the distribution in each booth will be the same. The colors used are as follows:

Booth No. 1, salmon.	Booth No. 4, green.
Booth No. 2, red.	Booth No. 5, blue.
Booth No. 3, cream.	Booth No. 6, cream.

To test for comparative illumination figures in booths Nos. 1, 2, 3, 4 and 5, all the reflex lights were adjusted so that their mantles were as near the same intensity as possible, and so that they all had the same consumption. A test station in each booth was then taken directly under the light, and illumination readings on the photometer taken on a horizontal plane 3 feet above the floor, making the height of mantle above the plane 5 feet 4 inches in each booth. The percentages given below are all based on booth No. 1 as 100 per cent. Several readings were taken at each test station to eliminate as much as possible the personal error in taking observations. The difference in the color of the reflected light was very clearly brought out on the photometer screen, booth No. 1 more nearly matching the tungsten standard lamp than any of the others. The results are as follows:

Booth.	Foot-Candles Observed.	Percentage of No. 1.
1.	6.248	100.00
2.	2.105	33.69
3.	3.975	63.62
4.	3.553	56.86
5.	2.510	40.17

Passing through this corridor we come to the library (Fig. 11). This room is especially noteworthy for the artistic blending of fixtures and decorations and the efficiency and perfect diffusion of the light. The room itself is wainscoted in English oak, with furnishings of the same material and the general decorative scheme is carried out in dark reds and golden browns. The mantel is an impressive and beautiful piece of work, being designed and executed especially for this room. The special lighting for reading is done by a central dome over the large library table. This dome, of hammered copper and amber glass, is equipped with a single reflex burner with holophane distributing reflector. The light which the reflector allows to pass through the amber glass, for decorative purposes, harmonizes perfectly with the decorations and furnishings of the room, and still the reflector directs most of the light directly downward, where it is of the most use. In order to properly diffuse the light thus directed, and prevent all glare from reaching persons seated around the table, the bottom of the dome has been covered by a plate of ground glass, allowing sufficient light to pass through for reading, and yet softening it for the eyes. The general or decorative lighting of the room is taken care of by 2 standards on the mantle, also of hammered copper and amber glass, equipped with small, upright incandescent

Fig. 11.

burners; by 2 side brackets with bijou inverted burners; by a portable table lamp, with standard upright incandescent burner, and by a portable bookcase lamp, with a bijou inverted burner; all in copper and amber glass, and combined, giving a soft diffused light, bringing out the decorations with great effect. The chief points of interest in this library, and ones which strike one at once on entering, are the efficient illumination, the total absence of glare, and the harmony of fixtures and decorations, a thing seen too seldom.

Directly off the library is the bathroom (Fig. 12), done in white

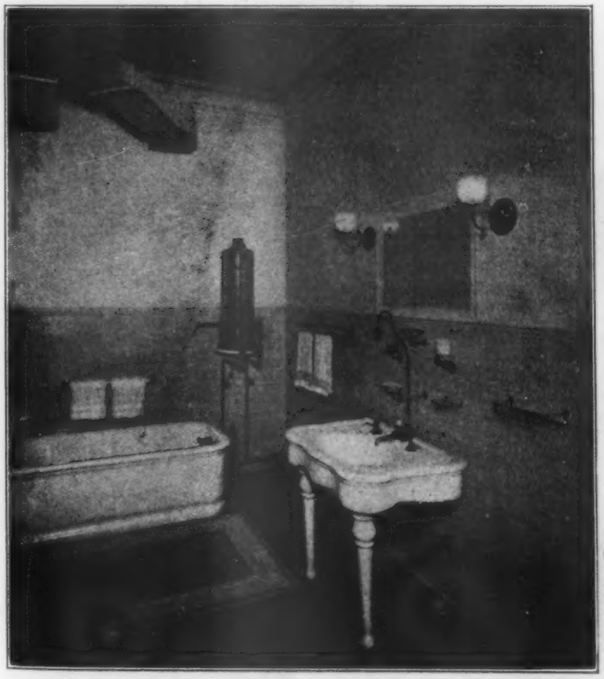


Fig. 12.

tile with nickel fittings. The illumination is furnished from side brackets, also nickel, placed one on either side of the mirror and directly over the wash basin. These brackets are equipped with Welsbach-Junior burners, and holophane No. 2404 diffusing globes. These give an efficient and well diffused light, and are good examples of the correct positions of the lighting fixtures in bathrooms and dressing rooms.

Back of the library is the dining room (Fig. 13), finished in old Colonial style with blue on the walls, white woodwork, and fitting mahogany furniture. This room again is a good example of how the illumination can be efficient and at the same time the lighting fixtures in keeping with the decorations. In order to carry out the true Colonial idea, a time when the lighting was done entirely by lamps and candles, the two side brackets, directly over the mantel, are fashioned as lamps, hung with crystal prisms. They are equipped with upright Welsbach burners, and serve as a means of general illumination for the room. Over the dining table is a large dome, in its outline and fringe of crystal prisms again suggesting the lamp period. This dome has 4 small, upright Welsbachs, and, like the

Fig. 13.

dome in the library, carries a bottom plate of ground glass, in this way removing all chance of the intensely brilliant light sources coming into direct line of vision of anyone seated at any point around the table. On either side of the fireplace and mantel, which one faces as they enter the room from the library, a window has been built in the false partition. Outside these windows, the visitor sees a trellis covered with climbing roses, apparently glowing in full sunlight. This effect is produced by having large upright Welsbachs inside the false partition, directly behind the mantel, which reflect their light from the mat-white surface of the walls of the partition, and in this way give the sunlight effect. The result is startling in its realism, and brings out with great force the true daylight value of the incandescent gas burner.

Adjoining the dining room is the butler's pantry (Fig. 14) com-

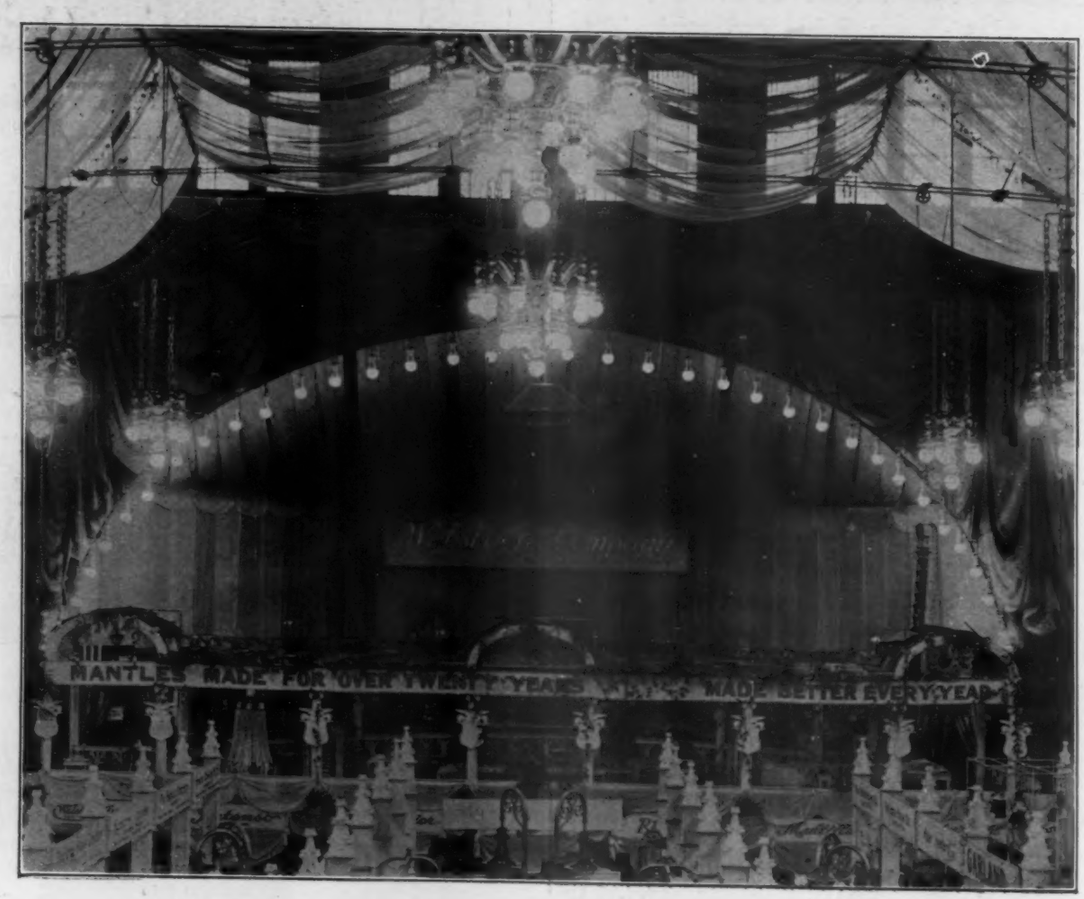
Fig. 14.

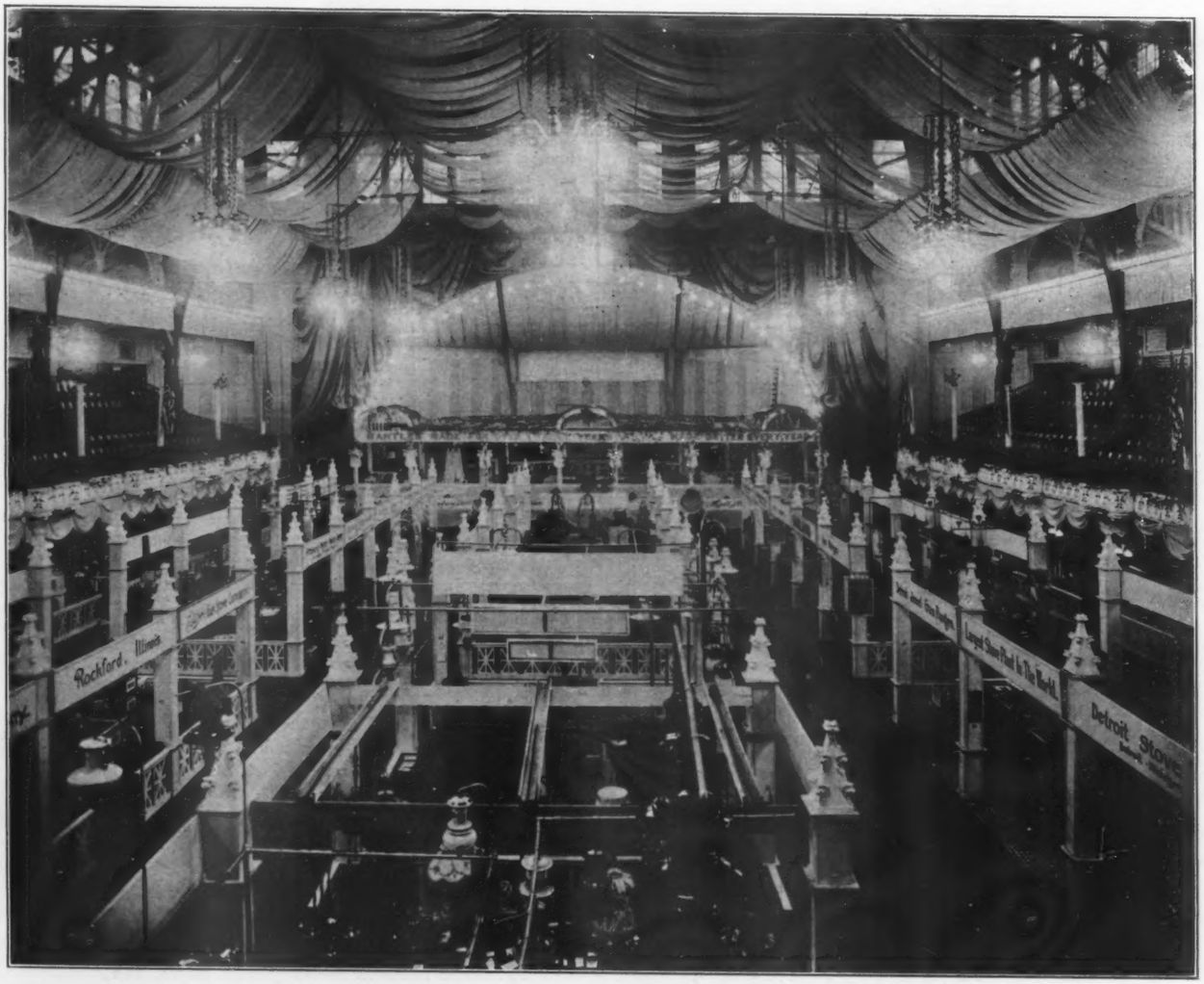
plete in all details. The lighting here is worthy of notice, for in many modern buildings, private houses and apartments, the correct lighting of the pantry seems to have been neglected. The general lighting is from a central fixture, with its upright Welsbach, with opal dome and bobesche, providing all the light necessary for the china closets, linen chests and shelves. Over the sink a side bracket carries a Ramsdell, inverted bijou burner, which insures ample light and which overcomes the very common fault, so often found, of the necessity of working in one's own shadow.

(To be Continued.)

The Boston Gas Exhibition.

It may seem a trifle late to revert, and pictorially at that, to the annual "Gas Show" for 1910, which, as all know, was held in Mechanics' Hall, Boston, from December 6 to 13, and was in every sense a success. The appearance of the room was all that could be desired, as the illustrations going herewith testify. The color scheme was blue and white, and the lighting was on even a more pretentious





scale than that seen in Madison Square Garden a year ago. As stated in previous references to the 1910 exhibition, the main lighting was done by the General Gas Light Company, of Kalamazoo, which provided for the main work as handsome a set of fixtures as had been seen, at least in this country for a like purpose; and, in addition, the proscenium arch of the stage, forming one side of the hall, was studded with a new arc lamp recently brought out by the Welsbach Company. The latter had the largest exhibit and the one of greatest popular interest to the general public, especially as it included a complete mantle making equipment in full operation.

The scope of the exhibits quite equalled that of the previous shows, although the number of exhibitors was not quite as large. The gas fraternity came in great numbers, and the exhibitors were undoubtedly amply repaid for the outlay of time and money required to make it a real gas show.

Gas Works Engineering Notes.

[Prepared for the JOURNAL, by "ENGINEER."]

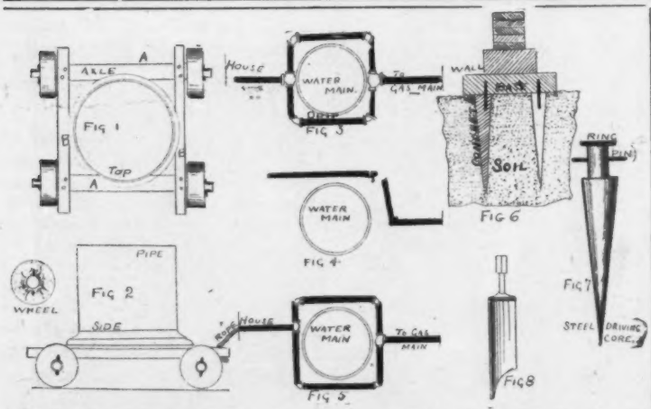
In moving a heavy section of pipe, nearly 5 feet in diameter, moulded from concrete, a four-wheeled, home-made truck was designed as shown in cuts 1 and 2. In the first drawing the top of the truck and pipe is shown, and Fig. 2 is a side view.

A section of the hardwood truck wheel is also exhibited. In making the truck the wheels are turned from 12-inch square, hard pine or any of the common hardwoods. In order to get a tough wheel some kilndried stock should be employed. There should not be extensive cracks or knots in the piece chosen for the wheels. The wheels should be sawed off straight through the stock, cutting on the grain, about 5 inches wide. If one can have access to a turning lathe the process of cutting the wheels down to a regular shape for the truck axle bearings will not be difficult. If the wheels have to be trued by hand tools, then more labor will be needed. A good way would be to have the wheels turned at a neighboring woodworking shop. The bore for the hub should be 2 inches, so as to allow for a strong axle bearing. The axles are likewise hardwood, cut with the bearing for the 2-inch bore wheels. The ends of the spindles thus cut are bored so as to receive a hardwood pin to retain the wheel in place. The axle should be about 3 inches square for the body part, and to this the crosspieces *B*, *B* can be bolted. In Figure 1 *A*, *A* represent the axles. On top of all the section of heavy pipe is placed, as shown in both cuts. With this truck, heavy articles of all kinds can be moved about the works.

Figs. 3, 4 and 5 are given to illustrate some combinations recently met with in passing water mains with gas pipes. The gas pipe in Fig. 1 is from the gas main, up to the water main, then over with the supply pipe above, and under with the drip-pipe as shown. In this combination the drip will flow through the drip pipe below and leave the upper pipe clear for gas. Sometimes the combination is used as in Fig. 4, in which case the pipe carrying the gas is allowed to run over the water pipe in the position shown. By this plan the drip is supposed to fall back into the gas main and not cut off the supply of gas in the pipe entering the building.

Fig. 5 shows another mode employed for obtaining equal results. In this case the drip and supply pipes are arranged about as they are set in Fig. 3. The pipe from the gas main joins with the drip and supply pipe at a point lower than the juncture with the same pipes on the opposite side of the water main made by the pipe leading into the house.

In a gas works where it was found necessary to do some building upon a spongy soil, the plan shown in Figs. 6, 7 and 8 was adopted. It was necessary to put in some foundation work, and, owing to the softness of the earth, the foundation walls could not get a proper solidity. The work of excavating the top soft soil to reach a hard bottom proved to be too expensive, hence the plan in the cuts was adopted without removing the top soft earth. A driver was made of wood, with a steel point, as in Fig. 7, which was used as a core for making the cone-shaped piles of concrete in the soil. The tool



s driven and then withdrawn. If required, a boring tool (Fig. 8) is used to get through hard places in the soil. As soon as the hollow tunnel is created with the driving instrument, and the latter is taken up, the hole thus made is filled and tamped with the mixed concrete before the soft earth has opportunity to close in. Hence the supporting, cone-shaped pillars are made at points desired. One good form is shown in section, Fig. 6, and the sectional portions of the cone-shaped concrete shafts as shown set into the soil. On top of the pair of posts thus made a base is cast, which base forms the foundation for anything needed to go on next.

The numbers of piles thus sunk depend upon the character of the soil and weight to be supported. The cone-shaped piling has a remarkable power for supporting great weights. The slanting sides getting braced in frictional contact with the soil, a very firm grip is made and weighty objects can be sustained.

PUBLIC LIGHTING TABLE FOR JANUARY, 1911.

[Communicated by The American Meter Company.]

Day of Week.	MOONLIGHT SCHEDULE.		
	Date.	Light.	Extinguish.
Sunday	1	5.20 P.M.	6.20 A.M.
Monday	2	5.20	6.20
Tuesday	3	5.20	6.20
Wednesday	4	5 20	6.20
Thursday	5	8.50	6.20
Friday	6	10.00	6.20
Saturday	7	11.10 F.Q.	6.20
Sunday	8	12.20 A.M.	6.20
Monday	9	1.30	6.20
Tuesday	10	2.50	6.20
Wednesday	11	4.10	6.20
Thursday	12	5.20	6.20
Friday	13	No L.	No L.
Saturday	14	No L. F.M.	No L.
Sunday	15	No L.	No L.
Monday	16	5.30 P.M.	8.00 P.M.
Tuesday	17	5.30	9.10
Wednesday	18	5.30	10.20
Thursday	19	5.30	11.30
Friday	20	5.30	12.30 A.M.
Saturday	21	5.30 L.Q.	1.30
Sunday	22	5.40	2.30
Monday	23	5.40	3.30
Tuesday	24	5.40	4.30
Wednesday	25	5.40	5.30
Thursday	26	5.40	6.10
Friday	27	5.40	6.10
Saturday	28	5.40	6.10
Sunday	29	5.50 N.M.	6.10
Monday	30	5.50	6.10
Tuesday	31	5.50	6.10

Recent Patent Issues.

Prepared for the American Gas Light Journal by Royal E. Burnham, solicitor of patents and counselor in patent causes, 833 Bond Building, Washington, D. C., from whom illustrations and specifications of any patent mentioned below may be obtained for 10 cents.

978,853, Method of and Apparatus for Making Gas. W. T. Cutter, East Lyme, Conn., assignor by mesne assignments to Hydrocarbon Converter Company, New York City.

978,861. Emergency Shut Off for Gasholders. R. M. Dixon, East Orange, N. J., assignor to Safety Car Heating and Lighting Company.

978,970. Process of Producing Gas. G. J. Weber, Kansas City, Mo., assignor to Louisa M. Weber, same place.

979,335. Burner for Gas Lamps. W. H. Reid, Brooklyn, N. Y.

Items of Interest
FROM VARIOUS LOCALITIES.

The Detroit and Suburban Gas Company is proposing to extend its main system to the village of Trenton, Mich. The project, however, will not be gone on with unless the authorities will consent to a franchise having a life of 30 years.

The Cape May (N. J.) County Board of Freeholders has finally consented to the petition of the Anglesea, Holly Beach and Wildwood Gas Company for permission to lay its pipes through all the roads of the county.

General Manager W. H. Winslow, of the Superior (Wis.) Water, Light and Power Company, is our authority that a revision of the gas and electric lighting rates in its various districts will be made early this year. He promises, too, that the cut in the charge for electric current service will be quite pronounced.

The contest for official gas inspector, Minneapolis, Minn., is attracting much attention, not only from the number of candidates that are grooming for the position, but from the further fact that the whole affair is rapidly taking on a positive political face. About 12 candidates are thus early in the field, and of those who seem most likely to supercede Mr. A. D. Meeds, the present inspector, the names of Ennis Johnson, E. J. Getsche and C. A. Bush, are being most frequently mentioned. Of these, it is urged by the daily newspapers, in their attempt at foreshadowing the successful candidate, and to show that politics, not fitness, are at the bottom of the scramble, that the first named has scant chance. In fact the *Journal* recently printed this in respect of the matter: "Many of the Aldermen declare that they have never heard of Johnson. He is a graduate of the State University and has been employed in various capacities by the Minneapolis Gas Company." The *Journal* offers these findings as defects in Johnson's candidacy, whereas from the point of view of a practical gas man these "defects" certainly appear to be recommendations of the very first character in respect of the position.

Announcement has been formally made through the firm of Henry L. Doherty & Co., that the Empire District Electric Company, subsidiary of the Cities Service Company, has purchased the entire capital stock of the Webb City (Mo.) and Carterville Gas Company, and the Carthage (Mo.) Gas Company, which Companies control the entire gas business in Webb City and Carterville, Mo., serving a combined population of about 12,000. The combined net earnings of the two acquired Companies for the year 1909, after the deduction of all interest charges, etc., amounted to $101,437, and it is estimated that the net earnings in 1911 will show cash available for dividends of $125,000. The Webb City corporation has a total capitalization of $150,000 and a funded debt of $100,000. Its franchise extends 20 years from 1905; its daily sales of gas are said to be about 7,000,000 cubic feet; it has 25 miles of mains, and about 1,850 meters. The Carthage Gas Company a total outstanding capitalization of $200,000, equally divided between preferred and common, and a funded debt of $100,000. It has 26 miles of mains and 2,300 meters. The gas supplied is of the natural order and the rates charged are: Maximum, 25 cents per 1,000; minimum, 12½ cents.

Some days ago local announcement was made that as Roanoke was rapidly outgrowing its gas plant, many additional facilities for the increasing use of gas would be provided during the coming year. Chiefly, to facilitate and care for the properties in stricter way, the owners have determined to separate the properties for future conduct. A new corporation will be formed to take over the gas business, and, in fact, the preliminaries on such account have been completed. In 1888, when Roanoke was far from being the business center that it now is, the Roanoke Water Works Company and the Roanoke Gas Company were consolidated, and it was also little thought that the gas plant, then one of the smallest in the State, but now the third largest, would ever be required to supply gas to Crystal Springs, Virginia Heights and Vinton, but such are the plans that are being worked out. Early in the year the City Council will be asked to give formal consent to the transfer of the franchise of the corporation to

its proposed successor. It is only a few years ago that Mr. H. S. Trout and Mr. H. M. Darnall became respectively President and Secretary of the Company, and inaugurated a policy of liberal dealing and the cultivation of the goodwill of the public. Both being so well followed that the gas division of its business has grown to the point that many thousand dollars will have to be expended in putting the plant to the shape where it will be equal to rendering service to a rapidly increasing population in this busy Virginia city.

MR. S. C. ROWLAND, of Crawfordsville, Ind., informs us that the authorities of Mitchell, Ind., have granted him franchises under which to there construct gas, electric light and water works, and to operate the same for a period of 25 years. The franchises also carry contracts, for the full term of the franchise, for electric arc lamps (not less than 35) at $60 each per annum, on a lighting table of 3,600 hours, and 20 incandescent, 32-candle power, at $20 each per annum, on a similar lighting table; and 75 hydrants, at $40 per annum each, said hydrants to be placed at designated points on the 6 miles of water mains to be laid. The population that can be served is placed at 5,000 to 6,000 people, and the named place is also a division point on the B. & O.-S. W., and Monon Railroads. The gas and water plants will be new, and the existing electric lighting plant will be reconstructed. All of this undertaking, as stated at the outset, is under the direct control of Mr. Rowland.

SOME time ago, and at quite some length, we reported that certain bench work contracts for the Montreal (Can.) Light, Heat and Power Company had been awarded to the Parker-Russell Mining and Manufacturing Company, of St. Louis. The quantities and dimensions were given accurately, but the work is to be done on the plant of the Consumers Gas Company, of Toronto.

ON the 3d inst., Messrs. James Taylor, Jas. J. Brown and Candace A. Brown, will apply to the Governor of Pennsylvania for the chartering of the Carbon Gas Company, which is formed for the purpose of supplying gas, for lighting purposes only, to the residents of the boroughs of Lansford and Summit Hill, Carbon county, Pa.

MESSRS. H. M. BYLLESBY & Co., of Chicago, have added to their holdings the properties of the Humboldt Gas and Electric Company, of Eureka, Cal. This purchase will eventually go into the operating control of the Western States Gas and Electric Company.

SUPERINTENDENT H. H. GANSER, whose management of the gas and electric lighting supply of Norristown, Pa., has been able to convince his superiors that a separate and distinct business house for these public utilities should be provided. The old structure known as "Odd Fellows Hall" has been purchased for such account, and when it has been properly transformed (rather rebuilt) the site and building will represent an investment of $75,000. The location is on Dekalb street, below Main, with an alleyway running its entire length (100 feet) on the northeast boundary. It may be that reconstruction work will not be commenced this year (for the Schieffler College people who have occupied 2 floors in the structure for a number of years, still have an unexpired term of lease covering a period of 3 years), but the fact remains that the Company's existing office plant on Main street below Dekalb are, and have been for months, altogether too cramped for its rapidly growing needs. The old "Hall" could be converted into quarters affording more than temporary relief, but to our knowledge of Mr. Ganser's ways—he never does anything by halves, if it is humanly possible to make the whole try at once—that prompted the immediate action thought.

MR. ROBERT J. BAKER has been appointed on the meter taking force of the Western division of the Holyoke (Mass.) municipal gas and electric plants. He succeeds Mr. T. A. Sullivan, whom we understand took service with the Denver (Col.) Company.

THE largest output for any 24 hours from the works of the Boston (Mass.) Consolidated Gas Company, was recorded the 21st inst., when the station meters showed that the quantities registered equalled 21,301,000 cubic feet, the prior record on like account being 20,219,000 cubic feet.

THE Directors of the Hartford City (Conn.) Gas Light Company have voted to increase the capital stock (common) in the sum of ($500,000) which will bring it to a total of $1,250,000. No change will be made in the preferred ($75,000) stock issue. The new issue is offered to shareholders of record to the holders of both common and preferred at the rate of 1 new share to 3 old shares.

THE projectors (ex-Senator A. J. Munzy, and Rep.-elect H. N. Wilcox, Bristol, and A. N. Granniss, Hartford) of the Poquabuck Gas Company have announced their intention of applying to the incoming Assembly, for a charter bestowing on them the usual powers of such corporations to manufacture and supply gas, and to lay the necessary mains for the distribution of such gas to the residents living along the streets and highways of Plymouth and Bristol. The Bristol and Plainville Tramway Company supplies electric currents now in Bristol.

"B. V. B.," writing from Bridgeport, Conn., under date of the 21st December, informs us that the "United Illuminating Company has arranged to take over the properties of the Fairfield Electric Company. This acquirement will give it entire control of the electric lighting properties in Greater Bridgeport. The Stratford Company was recently taken over, and the next step undoubtedly will witness the taking over of the Fairfield Company, on the West."

"THE residents of Hazel Park, a handsome suburban district of St. Paul, Minn., have, through the agency of the Hazel Park Improvement Association, informed the St. Paul (Minn.) Gas Light Company that an essential need of those who are taking up residence therein, is a gas supply, and please won't the Company run its mains out to them. In 1890 the residents of a certain part of Minneapolis, which place, as everybody else knows in the town of St. Paul, asked the Gas Company to come to their relief in like way. The Company did so, under the pledge that the selling rate would be 15 cents net per 1,000 cubic feet higher than the rate charged in St. Paul proper. The mains were run, gas was turned on, and for some months no kick was even heard, let alone registered. However, one day a certain lady who had taken title to quite a pretentious house in the section, declined to pay on the ground that as the place was within the corporate limits of St. Paul, no different charge for equal service in respect of gas supply should or could be made. The Company pleaded the agreement, the Association declared it was paying on Association account and use the increased rate, and gave testimony to show that the added rate was neither oppressive nor outside the agreement. The court decided, however, that the woman's contention was reasonable—basing the opinion that an even rate for like or corresponding service must obtain, whereupon the Company secured a reversion of the agreement as to the general supply, and then entered into separate contracts with each householder. This place ('tis just as well to hold it nameless) is now right in the city, although at the time of which I write, or when the projectors were plotting this particular annex, many a forest monarch had to be levelled.—M. S. M."

THE 25 per cent. increase in the capital stock of the Meriden (Conn.) Gas Light Company—it was $400,000—is now an accomplished fact.

THE Holland City (Mich.) Gas Company, by virtue of a resolution adopted by the City Council, has been ordered to cease making charges for connections on account of hooking up gas cookers, etc., or incur the penalty of forfeiting its franchise. The Company had been making such connections without cost to its customers until, having investigated the expenditure incurred, it notified the city that at the selling rate—90 cents per 1,000—in vogue, it was impossible to continue the practice.

MR. C. A. MAGEE, who recently resigned the Comptrollership of the Laclede Gas Light Company, of St. Louis, was tendered a banquet the night of the 20th December, the hosts being several of his former associates in the Company. The one who sends this item is disinclined to give even the name of the hostelry, which he denominated a "downtown hotel." He did say, however, that the affair was in every way informal and in every sense enjoyable.

MR. MAGEE is succeeded as Comptroller of the Laclede by Mr. J. E. McLeod, who was the Company's Claim Agent, and Mr. M. D. Kennedy succeeds Mr. McLeod.

THE Christmas celebration by the Laclede Gas Light Company, of St. Louis, on the 23d and 24th December, was marked by the giving away of 15,000 toy balloons and 15,000 footballs filled with its gas. The footballs were rubber balloons of the Rugby football shape, covered with brown canvas. They were inscribed, "Our Goal—The Goodwill of the Public. Laclede Gas Light Company." The toy balloons, of assorted colors, were inscribed, "America II. Christmas, 1910. Laclede Gas." The toy balloons were filled with gas by a detail of young women stationed in a decorated inclosure on the ground floor at 716 Locust street, the inclosure being formed by a gas pipe supplied with taps. In an adjoining inclosure a luncheon was served. Roast beef sandwiches were made from beef roasted on a range in view. The lower floor of the offices was festooned with laurel and holly, and a fringe of upright mantle lamps, 200 in number, was installed. Electric lights were maintained at intervals, for the purpose, as the officials explain, of showing how much better the mantle lamps are than the electric. The Company released 100 of the balloons during the first day of the celebration, and the distribution continued from 10 A.M. to 4 P.M. on the days named. "Our idea in the football is that we carry the kick right into the home of the customer," said C. L. Holman, Vice-President and General Manager of the Company. "The inscriptions on the toy balloons direct attention to the fact that the America II., inflated with Laclede gas, came within a few miles of capturing the long-distance balloon record."

THE AMERICAN GAS LIGHT JOURNAL

A. M. CALLENDER & CO.,
PROPRIETORS.

THOS. J. CUNNINGHAM,
ELBERT P. CALLENDER,
EDITORS.

CHARLES H. WADELTON,
MANAGER.

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MONDAY, JANUARY 2, 1911.

The Market for Gas Securities.

The opening quotations in Consolidated for last financial day in the year came in at 136¾ to 137, as against 159½ to 160 the corresponding date for 1909. A good gain all round is shown, the most important, of course, being the placing last quarter of the stock on a 6 per cent. basis. Perhaps the full effect of Mr. Addick's really clever management of the Company in the storming years of 1907 and 1908, are soon to be felt. And right here is to be given credit to President Cortelyou for the really unapproachable work that characterizes the Contelyou-Addicks system of management. There never was any appreciable loggerhead work in the Company's engineering management, as may be readily understood from the magnificant work in these lines accomplished by Mr. Bradley and his men, especially since 1901. Now, this harmonious way of going is also firmly intrenched in the Irving Place establishment. No more petty jealousy or striving for records on personal account may be claimed, with the result that the Company's great business is being solidly fostered. It is reasonable to expect big financial overhaulings this year, leading to a close approach to final consolidating.

Brooklyn Union is steady, and the wiseacres will have it that the first quarter of the year will witness an increase in the dividend rate. The general gas share market is rather dull, but prices are fairly held.

Gas Stocks.

Quotations by George W. Close, Broker and Dealer in Gas Stocks.

115 BROADWAY, NEW YORK CITY.

JANUARY 2.

☞ All communications will receive particular attention.

☞ The following quotations are based on the par value of $100 per share:

N. Y. City Companies.	*Capital.*	*Par.*	*Bid.*	*Asked*
Consolidated Gas Co.	$73,177,000	100	136¾	137
Central Union Gas Co. — 1st 5's, due 1978, J. & J.	8,000,000	1,000	98	101
Equitable Gas Light Co.— Con. 5's, due 1932, M. & S.	1,000,000	1,000	—	105
Mutual Gas Co.	2,500,000	100	155	165
New Amsterdam Gas Co.— 1st Con. 5's, due 1948, J. & J.	11,000,000	1,000	100	101¼
New York & Richmond Gas Co. (Staten Island)	1,500,000	100	35	50
1st Mtg. Gold Bds. 5 p. ct.	1,000,000	—	98¼	100¼
New York and East River— 1st 5's, due 1944, J. & J.	3,500,000	1,000	104	107
Con. 5's, due 1945, J. & J.	500,000	—	97	101
Northern Union— 1st 5's, due 1927, J. & J.	1,250,000	1,000	94	100
Standard	5,000,000	100	—	75
Preferred	5,000,000	100	70	100
1st Mtg. 5's, due 1930, M. & N.	1,500,000	1,000	100	105
The Brooklyn Union	15,000,000	1,000	134	136
1st Con. 5's, due 1948, M. & N.	15,000,000	—	106½	107
Yonkers	200,650	500	130	—
Out-of-Town Companies.				
Bay State	50,000,000	50	⅝	¾
" Income Bonds	2,000,000	1,000	—	75
Binghampton Gas Works	450,000	100	—	—
" 1st Mtg. 5's	500,000	1,000	90	96
Boston United Gas Co.— 1st Series S. F. Trust	7,000,000	1,000	82	85
2d " " "	3,000,000	1,000	47½	50
Buffalo City Gas Co.	5,500,000	100	5	8
Bonds, 5's	5,250,000	1,000	73	73½
Capital, Sacramento	500,000	50	—	35
Bonds (6's)	150,000	1,000	—	—
Chicago Gas Co. Guaranteed Gold Bonds	7,660,000	1,000	104	106¼
Cincinnati Gas and Electric Co.	29,500,000	100	92	93
Columbus (O.) Gas Co., 1st Mortgage Bonds	1,500,000	1,000	96	98
Columbus (O.) Gas Lt. & Heating Co.	1,882,750	100	90¼	91
Preferred	3,026,500	100	75½	80
Consumers, Toronto	2,000,000	50	200	204
Consolidated, Baltimore	11,000,000	100	106¼	—
Mortgages, 6's	3,600,000		89	100
Chesapeake, 1st 6's	1,000,000	—	—	—
Equitable, 1st 6's	910,000	—	—	—
Consolidated, 1st 5's	1,490,000	—	—	112
Consolidated Gas Co. of N. J.	1,000,000	100	15	—
Con. Mtg. 5's	976,000	1,000	92	95
Bonds	75,000	—	—	100
Denver Gas and Electric	3,500,000	—	102	105
Detroit City Gas Co.	6,580,000	—	—	50
" Prior Lien 5's	5,619,000	1,000	97	100½
Detroit Gas Co., 5's	361,000	1,000	75	80
Equitable Gas & Fuel Co., Chicago, Bonds	2,000,000	1,000	—	101
Essex and Hudson Gas Co.	6,500,000	—	39	40
Fort Wayne	2,000,000	—	—	—
" Bonds	2,000,000	—	55	—
Grand Rapids Gas Light Co., 1st Mtg. 5's	1,350,000	1,000	104½	105
Hartford	750,000	25	190	200
Hudson County Gas Co., of New Jersey	10,500,000	—	113	113½
" Bonds, 5's	10,500,000	—	108	108½
Indianapolis	2,000,000	—	60	70
" Bonds, 5's	2,650,000	—	104½	105
Jackson Gas Co.	250,000	50	83	—
" 1st Mtg. 5's	290,000	1,000	97	100
Kansas City Gas Light Co., of Missouri	5,000,000	100	—	96
Bonds, 1st 5's	3,822,000	1,000	102	104
Laclede Gas Co., St. Louis.	10,000,000	100	105½	105¾
Preferred	2,500,000	100	94¾	102
Bonds	10,000,000	1,000	102¾	103
Lafayette Gas Co., Ind.	1,000,000	100	—	60
Bonds	1,000,000	1,000	60	65
Louisville	2,570,000	50	143	145
Madison Gas and Electric Co. " 1st Mtg. 6's	400,000	1,000	106	106½
Massachusetts Gas Companies, of Boston	25,000,000	100	87½	87⅝
Preferred	25,000,000	100	94½	94¾
Montreal Gas Co., Canada	2,000,000	100	218	218¾
Nashville Gas Light Co.	1,000,000	100	110	—
Newark, N. J., Con. Gas Co.	6,000,000	—	56	58
Bonds, 6's	5,000,000	—	137	138
New Haven Gas Co.	2,000,000	25	200	—
Peoples Gas Lt. & Coke Co., Chicago	25,000,000	100	104¾	105¼
1st Mortgage	20,100,000	1,000	—	—
2d "	2,500,000	1,000	104	—
Rochester Gas & Electric Co.	2,150,000	50	88	—
Preferred	2,150,000	50	118	—
Consolidated 5's	2,000,000	—	104¾	105½
San Francisco Gas Co., Cal.	15,500,000	—	—	—
St. Joseph Gas Co.— 1st Mtg. 5's	1,000,000	1,000	100	102
St. Paul Gas Light Co.	2,500,000	100	—	—
1st Mortgages, 6's	650,000	1,000	113	116
Extension, 6's	600,000	1,000	112½	115
General Mortgage, 5's	3,447,000	1,000	90	95
Syracuse Gas Co., N. Y.	1,975,000	100	50	55
Bonds	2,047,000	1,000	100	104
Washington (D. C.) Gas Co.	1,500,000	200	367	370
1st Mortgage, 6's	600,000	—	—	—
Western Gas Co., Milwaukee	4,000,000	—	—	—
Wilmington (Del.) Gas Co.	600,000	50	361	—

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Also Representing The Bartlett Hayward Company.

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OFFICE OF THE UNITED GAS IMPROVEMENT CO.,
N. W. CORNER BROAD AND ARCH STS.,
PHILADELPHIA, December 14, 1910.

The Directors have this day declared a quarterly dividend of 2 per cent. (one dollar per share), payable Jan. 14th, 1911, to stockholders of record at the close of business, Dec. 31, 1910. Checks will be mailed.

1854-4 LEWIS LILLIE, Treasurer.

Position Wanted.

An experienced gas manager, now employed as manager, desires a similar position either with a natural or artificial gas company, in a city of 20,000 population or over. No preference as to location of city. Can leave present position on 30 days' notice. Results guaranteed.

Address, "A.,"

1843-tf Care this Journal.

WANTED,

Position as Manager and Superintendent of Gas Plant.

Best of references given. Fifteen years' experience in gas business. Address, "F.,"

1846-tf Care this Journal.

POSITION WANTED.

A gas manager, now employed, desires similar position in city of 15,000 population or over. Excellent record for results obtained in all departments and will refer to past and present employers. Address, "D. S. C.,"

1853-tf Care this Journal.

WANTED,

SITUATION BY A FIRST-CLASS GAS METER REPAIRER.

Best of references. Address, "OLIVIA,"

1856-1 Care this Journal.

Position Wanted

By a Good Fitter and Complaint Man,

Experienced in all kinds of gas appliances. Address, - "J.,"

1856-1 Care this Journal.

POSITION WANTED.

Commercial manager, 6 years in present place, wants to make a change. Being familiar with "commission system" of bookkeeping, am also capable of taking charge of the accounting department. Willing to handle both divisions with small company, gas or electric. Address, "JAMES,"

1856-1 Care this Journal.

WANTED,

Traveling Representative by Gas Bench Manufacturer.

Man with wide acquaintance with gas companies or practical experience in gas bench design and operation, or both

1853-tf Address, "M. S.," care this Journal.

WANTED,

A man now superintendent of a coal gas plant, who wants to learn operation of by-product coke oven plant. Good future and good salary to start.

1855-2 Address, "COKE OVEN," care this Journal

WANTED,

Foreman of Gas Shop in City of 25,000 Population.

Must be a man of good habits, good manager of men, good pipe fitter, good meter repairer. State experience. Give references, Address, "W. G. & C. C.,"

1852-tf Care this Journal.

WANTED, A WATER GAS FOREMAN,

For a water gas plant making 500,000,000 annually. Must be able to handle men. State age, experience, references and salary expected.

1856-1 Address, "R. B. C.," care this Journal.

GAS SUPERINTENDENT WANTED,

To take charge of company in a New York State city of 15,000. Must be experienced in coal gas manufacture, capable of directing office details and securing new business. Address, giving references and experience, "P. K. S.,"

1856-1 Care this Journal.

WANTED,

To fill positions in our new meter shop, which will be open for operation January 15, 1911:

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Twenty " " Repairers.
Twenty-five Young Men, with Experience in Meter Repair Shops.

1856-2 LACLEDE GAS LIGHT CO., St. Louis, Mo.

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State make, condition, etc.

1856-3 Address, "RAMLEB" care this Journal.

WANTED,

One 6-Foot or 7-Foot Lowe Water Gas Set in Good Condition.

State price and condition of machine.

1856-5 Address, "B. B. F.," care this Journal.

NOTICE OF SALE OF A GAS PLANT BY RECEIVER.

Notice is hereby given that Lawrence P. Boyle, Receiver of the City Gas Company, of Washington, Ind., will, on or after January 23, 1911, sell at private sale all and singular the property, both real and personal, rights and franchises of said company, subject to a mortgage indebtedness of $30,000 and accrued interest, but freed from all other liens and claims. Said sale shall be for cash and for not less than a minimum sum or $15,000. For full information address, LAWRENCE P. BOYLE, Receiver,

1856-1 Washington, Ind.

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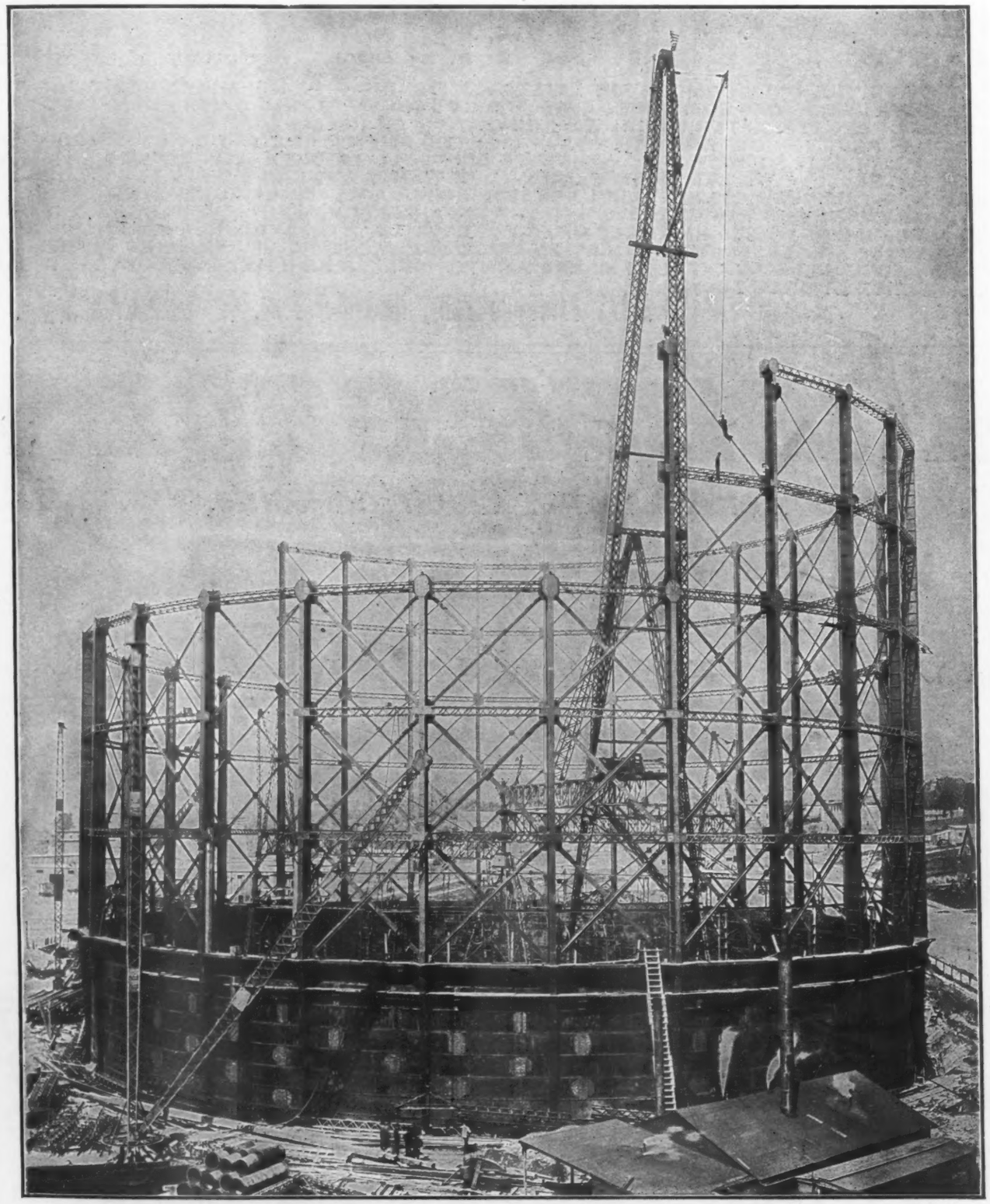

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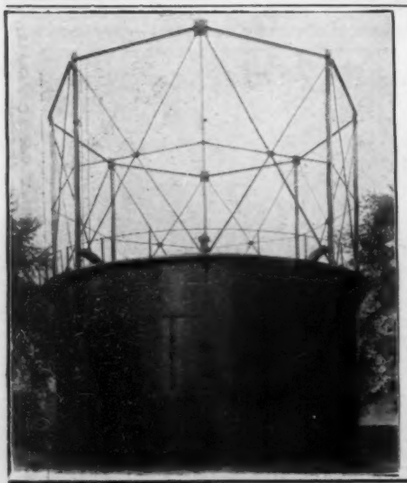

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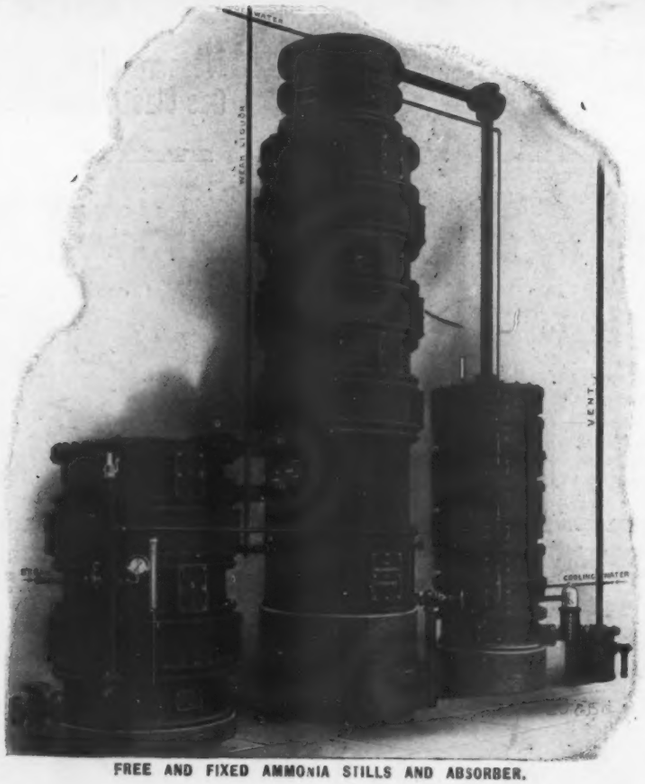

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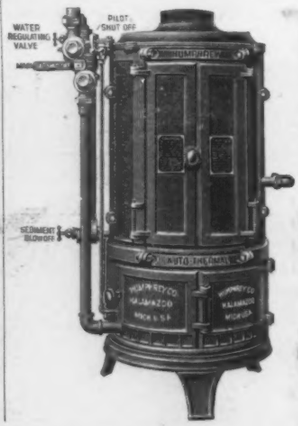

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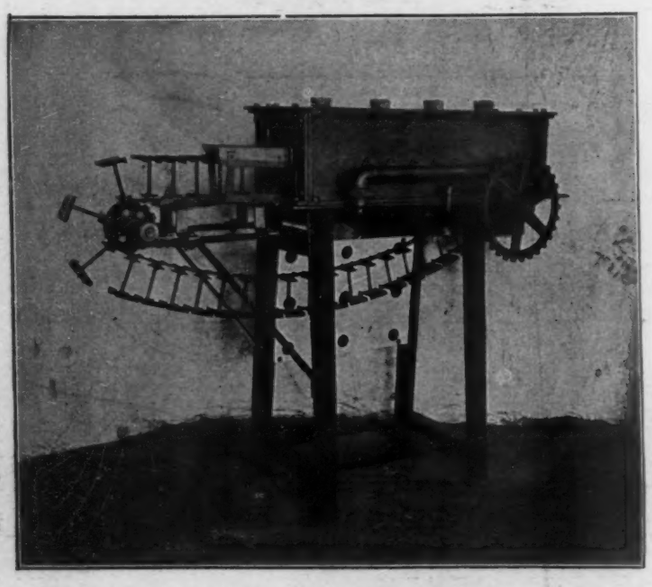

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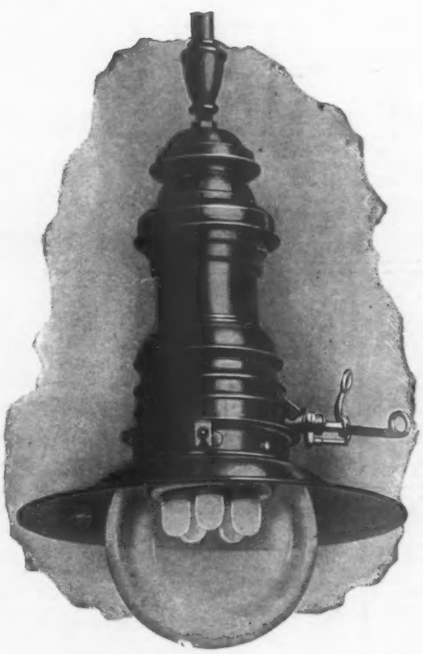

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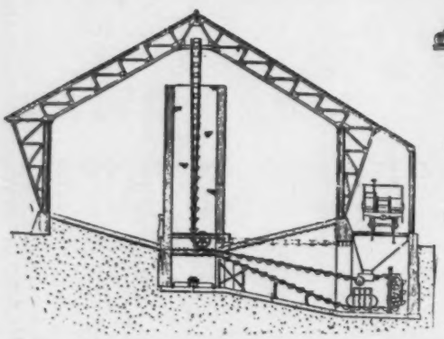

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Canadian Gas Association.—Annual meeting, June, 1911. ————. Officers President, Arthur Hewitt, Toronto, Ont.; Secretary and Treasurer, John Keillor, Hamilton, Ont.

Empire State Gas and Electric Association.—Annual meeting, Nov., 1910. New York City. Officers: President, C. R. Huntley, Buffalo, N. Y.; Secretary, C. H. B. Chapin, 29 W. 39th street. New York City.

Guild of Gas Managers of New England.—Annual meeting, December. Young's Hotel, Boston; monthly meeting, second Saturday. Officers: President, A. K. Quinn; Newport, R. I.; Secretary, Walter G. Africa, Manchester, N. H.

Illinois Gas Association.—Annual meeting, time, March, Chicago, Ills. Officers: President, A. S. Harrington, Chicago, Ill.; Secretary-Treasurer, C. B. Strohn, Elgin, Ill.

Illuminating Engineering Society.—Annual meeting, Oct.. —, 1911. Meetings of Sections, monthly. President, E. P. Hyde, Cleveland, O.; Secretary, Preston S. Millar, 29 W. 39th street, N. Y. City. Sections: New York: Secretary, Albert J. Marshall, 36 West 39th street. New England, Secretary, L. D. Gibbs 39 Boylston street, Boston, Mass. Philadelphia, Secretary, F. N. Morton, Broad and Arch streets Chicago, Secretary, F. H. Bernhard, Marquette Building.

Indiana Gas Association.—Annual meeting, Jan. 18 and 19, 1911, Fort Wayne, Ind. Officers: President, Carl H. Graf, Indianapolis; Vice-President, S. E. Mulholland; Secretary-Treasurer, Philmer Eves, Indianapolis Gas Company, Indianapolis, Ind.

Iowa District Gas Association.—Annual meeting, time, June, 1911, ————. Officers: President, Austin Burt, Waterloo, Ia.; Secretary and Treasurer, G. I. Vincent, Des Moines, Ia.

Kansas Gas, Water and Electric Light Association.—Annual meeting, time, —————— Wichita, Kas. Officers: President, W. A. Scothorn, Hutchinson, Kas.; Secretary and Treasurer, J. D. Nicholson, Newton, Kas.

Michigan Gas Association—Annual meeting, time, Sept. 1911; Detroit, Mich. Officers: President, A. P. Ewing, Detroit, Mich.; Secretary-Treasurer, Glenn R. Chamberlain, Grand Rapids, Mich.

Missouri Electric Light, Gas, Water Works and Street Railway Association.—Annual meeting, April 13, 14 and 15, 1911; St. Louis, Mo. Officers: President, R. J. Irvine; Secretary and Treasurer, W. J. Cunningham, Springfield, Mo.

National Commercial Gas Association.—Annual meeting, December 5-12, 1911. Denver, Officers: President, C. N. Stannard, Denver; Secretary, Louis Stotz, 29 West 39th street, New York City.

Natural Gas Association.—Annual meeting, May 16, 17 and 18, 1911; Pittsburgh, Pa. Officers: President, John M. Garard, Columbus, O. Secretary, T. C. Jones, Delaware, O. Editor Wrinkle Department, F. W. Stone, Ashtabula, O.

New England Gas Association.—Annual meeting, third Wednesday in February, 1911; Boston. Officers: President, W. H. Snow, Holyoke, Mass.; Secretary-Treasurer, N. W. Gifford, East Boston, Mass.

Oklahoma Public Utilities Association.—Annual meeting, May 9, 10 and 11, 1911. Officers: President, E. C. Reynolds; Secretary, Galen Crow, Guthrie, Okla.

Pacific Coast Gas Association.—Annual meeting, Sept. 20, 21 and 22, 1911, Oakland, Cal. Officers: President, F. A. Leach, Jr., Oakland, Cal.; Vice-President, W. Baurhyte, Los Angeles, Cal.; Secretary-Treasurer, John A. Britton, 925 Franklin street, San Francisco, Cal.

Pennsylvania Gas Association.—Annual meeting, April, 1911, Reading, Pa. Officers President, J. H. Keppelman, Reading, Pa.; Secretary-Treasurer, William H. Merritt, Lebanon, Pa.

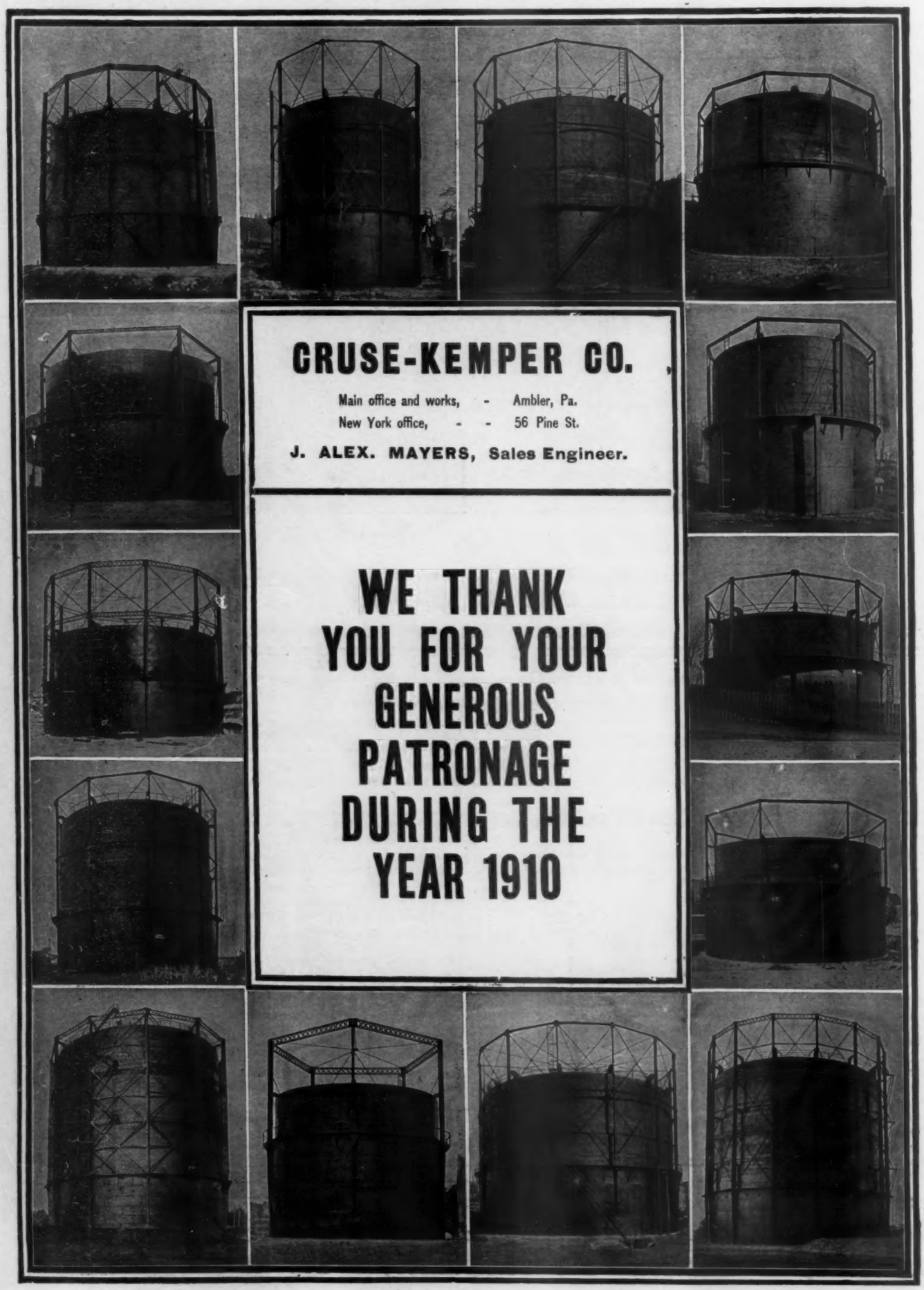
Society of Gas Lighting.—Annual meeting, December, 1911; monthly meeting, second Thursday. Place, New York City. Officers: President, Fred. S. Benson; Secretary, George G. Ramsdell, Waterbury, Conn.

Southern Gas Association.—Annual meeting, April 19-21, 1911, Montgomery, Ala. Officers: President, H. W. Frund, Salisbury, N. C.; Secretary-Treasurer, Jas. Ferrier, Rome, Ga.

Southwestern Electrical and Gas Association.—Annual meeting. May, 1911, ———— Tex. Officers: President, W. B. Tuttle, San Antonio, Tex.; Secretary, H. B. Head, Stephensville, Tex.

Wisconsin Gas Association.—Annual meeting, May ————, 1911, Milwaukee, Wis. Officers: President, W. H. Winslow, Superior, Wis.; Secretary-Treasurer, Henry Harmon, Milwaukee, Wis.

Directory of American Gas Companies, 1910. Price, $5.00. For Sale by American Gas Light Journal, 42 Pine St. N. Y. City.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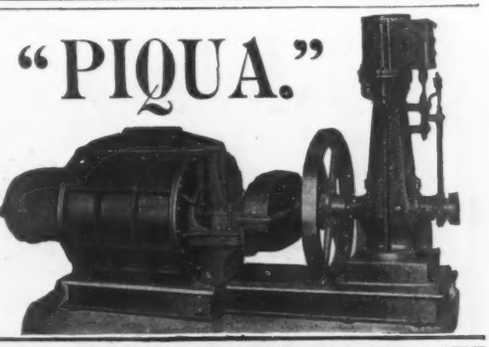

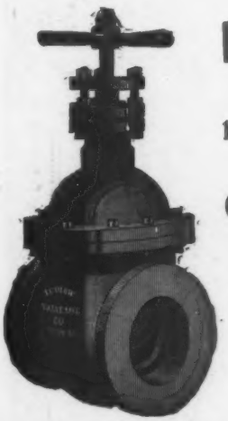

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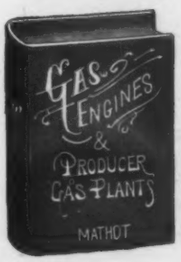

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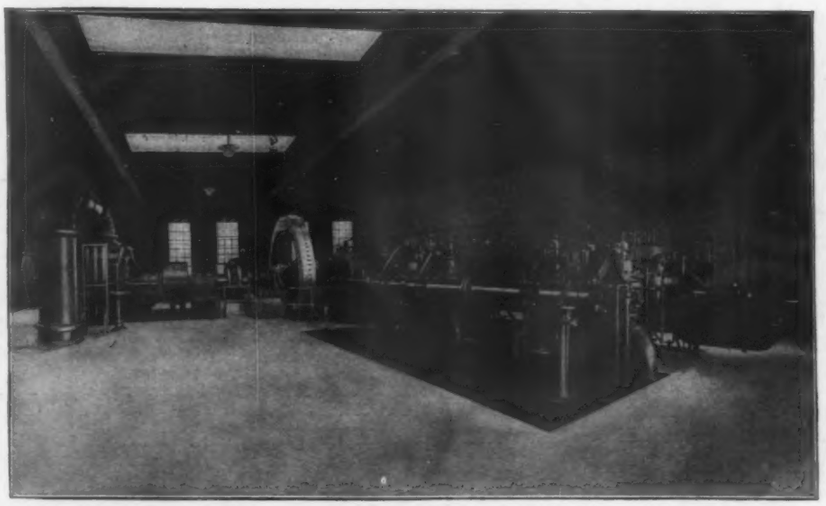

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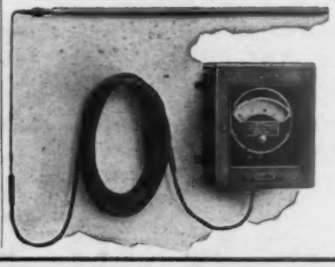

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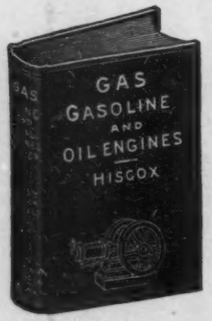

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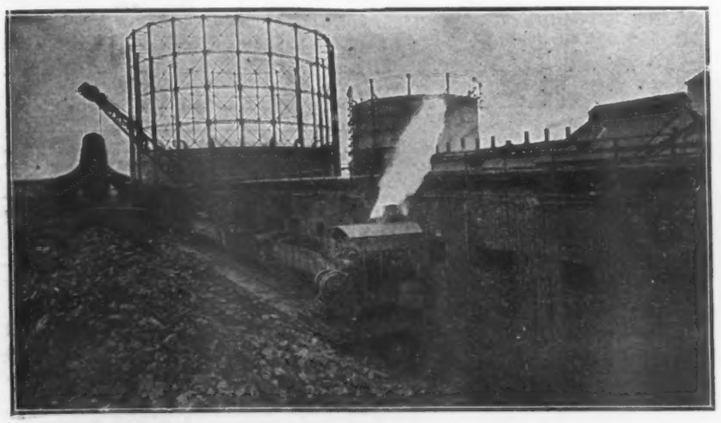

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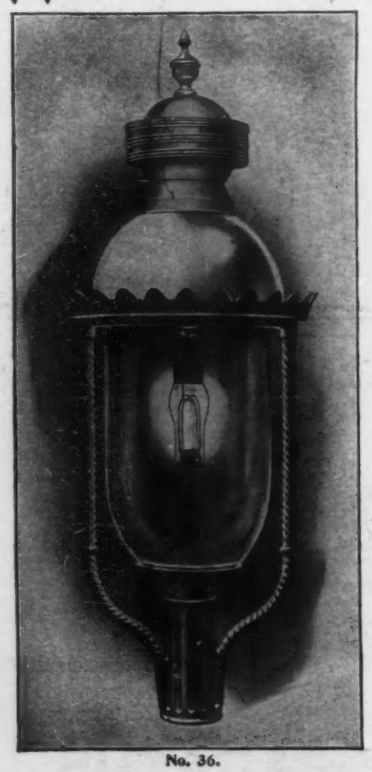

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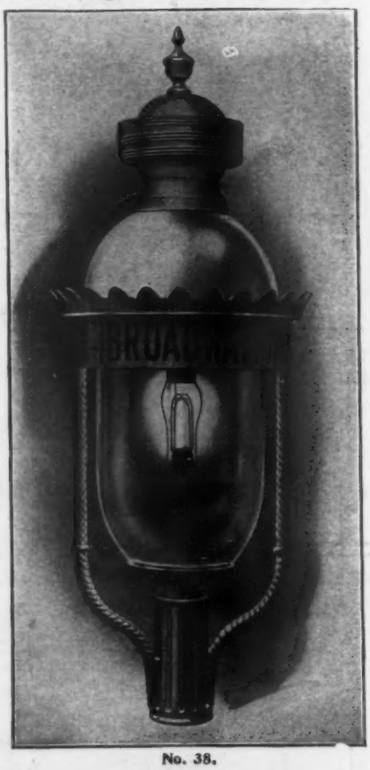

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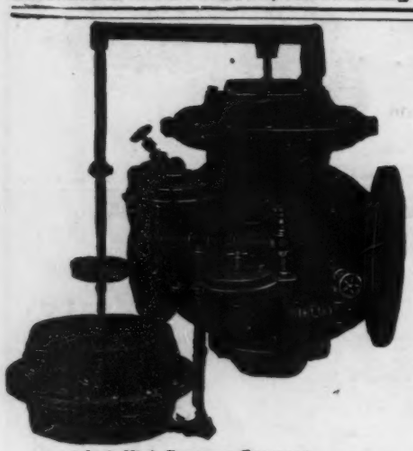

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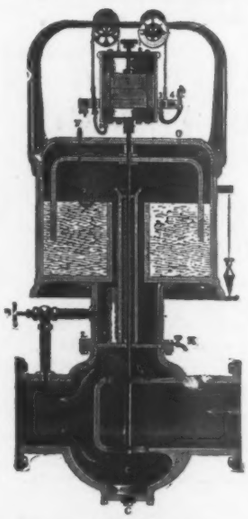

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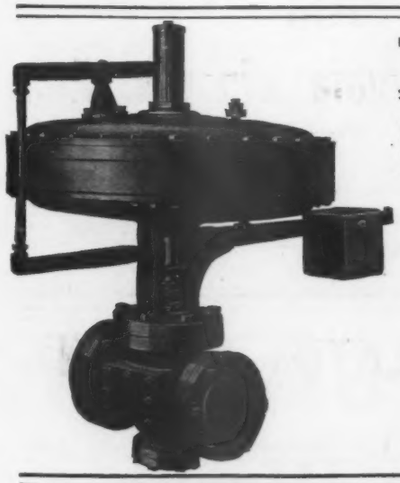

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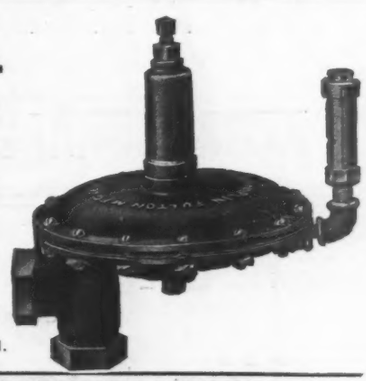

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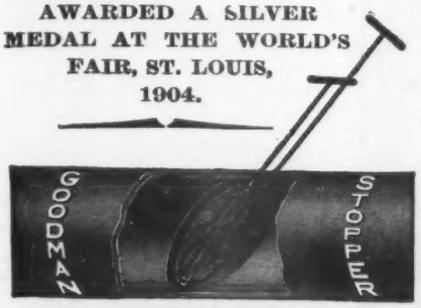

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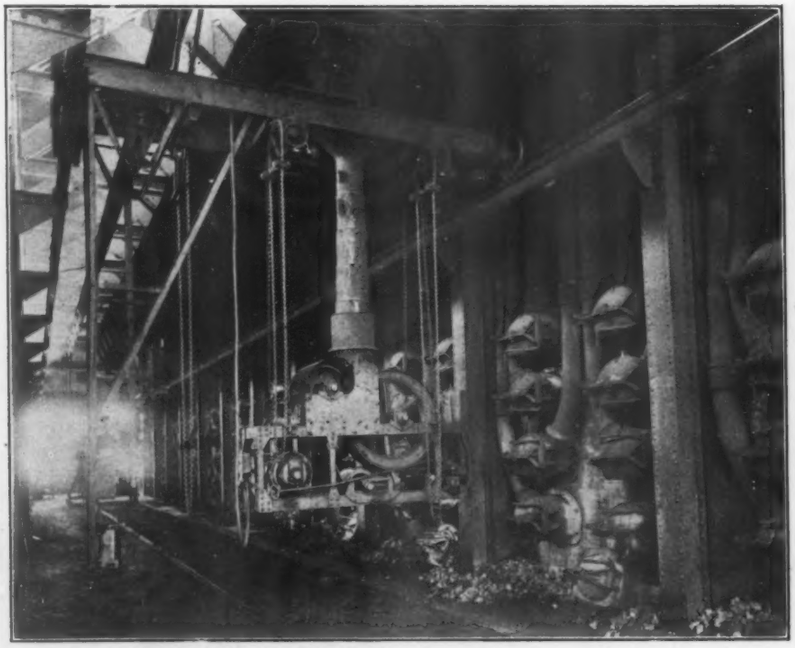

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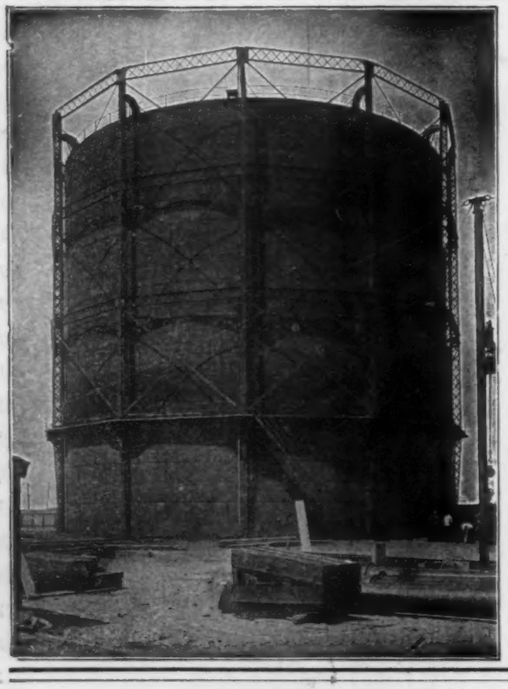

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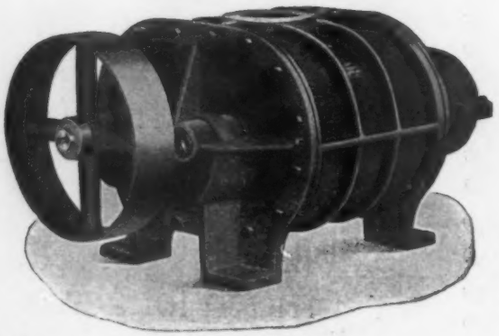

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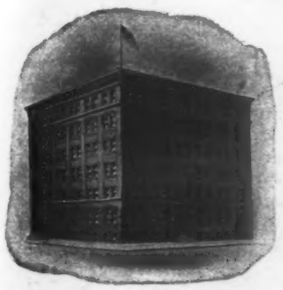

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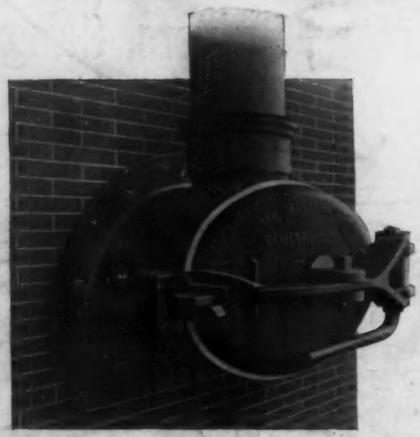

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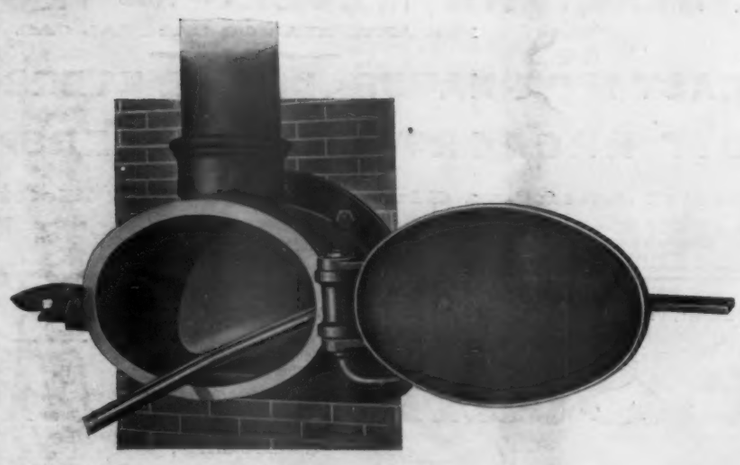

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